ART
IN THE
ELEMENTARY SCHOOL

MARGARET E. MATHIAS

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ART IN THE
ELEMENTARY SCHOOL

The Viking Ship.
Painted by a fifth-grade child.

ART IN THE ELEMENTARY SCHOOL

BY

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CHARLES SCRIBNER'S SONS
NEW YORK CHICAGO BOSTON ATLANTA
SAN FRANCISCO DALLAS

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TO

MY MOTHER

**WHO BELIEVES IN THE DIVINE RIGHTS
OF CHILDREN**

120498

To Doctor Bessie Lee Gambrill, who wrote the introduction and offered helpful criticism from the psychological point of view; to Miss Marion G. Clark, who has made many valuable suggestions about children's interests and abilities; to Miss Minnie Lee Davis and Miss Harriett Hayden, who read the manuscript; to Miss Gertrude I. Saastamoinen, who has contributed many suggestions and illustrations; to Miss Estelle E. Baker, who has a keen understanding of the art problems of children; to the teachers of the elementary grades of Cleveland Heights, Ohio; to Mr. Harry A. Sprague and the teachers of the demonstration school of the New Jersey State Teachers College at Montclair; to many others whose help in various capacities has been invaluable, I wish to express my sincere appreciation and thanks.

INTRODUCTION

Art education in the elementary school aims to foster and develop the child's natural impulse to express his feelings about his experiences through the use of materials. It seeks to give him control over the skilful use of materials for the practical purposes of social intercommunication as well as for the satisfaction and personal enrichment which results from the shaping of matter to new form in response to a creative impulse. It strives to extend the range of materials which he knows and can use with sufficient skill to carry out adequately his purposes. Perhaps its most universally recognized function is the stimulation and fostering of sensitiveness to beauty in its varied manifestations both in nature and in the art heritage of the ages, in and through which men of our own day and those of other times and places have recorded and perpetuated their feelings about their own experiences.

These objectives, psychological in character, can be attained only through slow and gradual development resulting from appropriate activity wisely guided. They will never be the outcome of dictation and formal drill. That such growth in children may be promoted effectively, rich and varied experiences, the natural incentives to creative expression, must be assured. Materials suitable to the child's successive stages of development and freedom to use these media in ways natural to his stage of development are essential. Respect on the part of teachers for these crude but sincere efforts to achieve his purposes and ability to interpret these efforts in relation to later steps in growth is of crucial importance.

Help in technique at just the right points and in the most effective way, together with abundant practice, is necessary for the attainment of skills requisite to real freedom in the purposive use of materials. Repeated response over a period of years to the recurrence in various aspects of environment of rhythm, color harmony, balance, and the other relationships which we recognize and express as art principles will condition the growth in sensitiveness to beauty and the enrichment of life which such appreciation yields.

There is an increasing realization among teachers that children learn through their own activity, that creative activity has educational value, that dictated manual and art work is out of harmony with modern educational philosophy and progressive school practice, that art appreciations are valuable ends of education. There is much less understanding of how to secure and foster creative activity, how to develop art appreciations or how to develop the techniques necessary to continued growth from lower to higher levels of performance without killing the creative impulse.

Miss Mathias, the author of this volume, has offered a real contribution to teachers and supervisors who feel the need of help in the teaching of drawing and design in the elementary school which will conserve these values. She brings to the task not only personal gifts and professional training in education and in art, but wide experience as teacher, as instructor in normal schools and in summer sessions at Columbia University, and as art supervisor in the schools of Cleveland Heights. Her suggestions rest upon tested practice as well as upon a consistent theory which is the outgrowth of modern psychological and educational principles.

In an earlier book, *The Beginnings of Art in the Public*

Schools, Miss Mathias presented a simple and direct account of the early stages of art education. This little volume, so enthusiastically received, at once met a need for help in interpreting and guiding the initial stages of art experience and created a demand for direction along the same lines in the remaining grades of the elementary school.

Art in the Elementary School, which it is my privilege and pleasure to introduce to the educational public, is the response to this demand. In the early stages of the child's use of materials he is uncritical of his product and feels little need for skill in the use of his chosen medium. Before the end of the second grade, and from that point onward, he demands increasingly that the product shall conform to reality—to the appearance of the observed object or to the idea which he seeks to express. If the teacher does not recognize the child's need at this point or does not know how to meet his need, discouragement or arrested development is the inevitable result. Miss Mathias offers in this book practical help in attacking the teaching problems presented by grades three to six. She has succeeded in giving definite and helpful suggestions on "how to do it" without resort to the listing of devices. Art principles and educational principles are clearly stated and explained. Their application to the fostering and development of art in the elementary school above the second grade is described and illustrated both as to procedures and results.

In recommending this book to elementary teachers and supervisors, I do so with the belief that its reading and study will give them real help in making art more richly functional in the lives of boys and girls. It should aid in vivifying the concept of education as growth, to which most of them theoretically subscribe. It should help them also to see more clearly how to apply the implications of this concept to the definition of goals, the selection of materials, and the guidance of children's activities which will make the teaching of art yield the rich emotional and practical values which should be realized by its inclusion in the elementary school curriculum.

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CHAPTER I

ART AND THE ELEMENTARY SCHOOL

"Art," says Dr. Dewey, "is not an outer product nor an outer behavior. It is an attitude of spirit, a state of mind, one which demands for its own satisfaction and fulfilling a shaping of matter to new and more significant form."

The "attitude of spirit, the state of mind" is the result of the individual's feeling about experiences. The "shaping of matter to new and more significant form" involves materials. We can conceive then of every individual as an artist with varying "attitudes of spirit" and with different degrees of familiarity with "matter" and the processes of its reshaping. Art has its beginning in the individual. It is not the individual, nor the experience, nor the material, but it involves all three.

The experience need not be unique. The human family has shared similar experiences. Many people have used the same material. The same experience affects individuals differently and the way the individual expresses his feeling about the experience varies according to his familiarity and skill with materials. For this reason, no one expression or work of art is exactly like another expression, even though the same experience prompted it and the same material is used.

Art, in its widest sense, includes music, drama, literature, painting, sculpture, in fact any result of a human feeling or need adequately expressed through materials. Due to the difference in material, the various arts are considered as separate "subjects" and no attempt will be made to include music or literature but attention will be given to art as related to drawing and design or the "space arts."

The Elementary School.—The elementary school, as here considered, comprises the third, fourth, fifth and sixth grades. The children entering from the second grade are just beginning to be self-critical about their work and to demand help in technique. The children leaving to enter Junior High School are ready for experience in various phases of art with a view to vocational guidance. In this period, between the primary school and the Junior High School, we have to deal with the art problems that are common to all children. We must handle these problems realizing that these same children will have common art problems twenty years hence.

Examination of courses of study in art shows that the early attempts in art training in the public school aimed to make every one a painter. Progress was made when consideration was given to the art needs of the average adult. Some discerning art educators realized that while the individual who had special art ability deserved to have adequate preparation, yet the average individual also had art needs that deserved consideration. However, for the child the art course remained dull and uninteresting. He seemed to have little interest in the problem of how to choose wall paper even though he was reminded that some day he would want to know how. Now, there is the realization that elementary art must be of interest to and within the experience of the children. This excellent point of view has led to some very unfortunate results for in attempting to follow the children in what they wanted to do the art work sometimes has become an aimless affair. Children cannot ask for information concerning something about which they know nothing. We must recognize the existence of certain definite art principles. These must be taught to the children as their needs and abilities demand because they have need for them in their normal activities. It is on the basis of these fundamental principles that the ordinary art problems may be solved. I do not say that children are conscious of the need for these principles. Very often they are not. But if we are sensitive to the situation we will find genuine needs for the art principles and many sincere applications of those principles. In the older Arithmetics, I notice that children were taught to add yards of wall paper and tons of coal. In a recent Arithmetic children were to add marbles or kites or balls. But they learn to add and from an observation of an arithmetic class recently, I concluded that they do it much more efficiently and certainly with much more enjoyment when they "add things within their experiences."

For the success of our elementary art course then, we must have genuine respect for the art quality of every activity and equal respect for the children and their activities. We must challenge every material we give the children to work with and every skill we try to develop; the attitudes we hope to establish; the knowledges we attempt to impart. The challenge is this: Does it have a present value to the child and does it lead to anything worth while?

In order to select from the field of art those knowledges and activities which we would carry on in the elementary school, we must carefully consider the needs of the child and look forward to his adult needs. Every normal child likes to draw if he is allowed to draw what *he* has to tell. In order to meet his rising standards, he must increase his skill and knowledge of the drawing process.

In many schools the art work is called "drawing." Drawing is only a small portion of the art field. For our purposes we may recognize two types of drawing; first, pictorial or representative drawing. This involves showing three dimensions on two. The paper has length and width. The scene that is to be drawn on that paper has length and width and also depth. Some parts of the picture are near and some parts far away. How to accomplish this involves principles of perspective and proportion. The other type of drawing may be called "informational" or mechanical drawing. This type of drawing refers to plans, working drawings, diagrams and graphs. To be able to draw is to be equipped with an additional means of expression which serves the child as well as the adult with a valuable tool both for business and leisure.

Design or art structure is the combining of parts into a satisfying whole. The principles of design refer to the means by which a satisfying arrangement is accomplished. The child as well as the adult has need for these principles.

The elementary art course should also include a basis for the enjoyment and understanding of our art heritage of paintings, sculpture, buildings and the minor arts.

In planning the elementary art course, we would hope to establish "art" habits of looking at everything from the utilitarian but also from the æsthetic standpoint. We must also recognize established principles of general education.

CHAPTER II

FUNDAMENTAL PRINCIPLES OF ART EDUCATION

Every individual has the right to numerous individual and race experiences. Art is the expression of these experiences through materials. Art education has for its purpose the development of the art abilities of each individual in order that he may experience the unquestioned joy of creative work and æsthetic satisfaction. The development of this latent ability depends upon the successful acquisition of certain knowledges, skills, habits, and attitudes. Principles of general education will be helpful if applied to art education and should always determine the technique of teaching art.

Knowledges.—(1) Knowledge of the world, its past and present should come to every child in the form of active experience and should lead to a desire for expression.

(2) Knowledge of the art principles which control that expression should be acquired, according to the law of readiness,* when the child is conscious of his need for such principles to solve his problem.

(3) According to the law of exercise he should have many opportunities to apply the principle in other situations than the one which brought his feeling of need.

(4) According to the law of effect the child must feel satisfaction in his knowledge of this principle so that he will continue to use it and will make it a part of his equipment.

Skills.—The mastery of tools and technique.

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*E. L. Thorndike—*Laws of Learning* in *Educational Psychology.* (Macmillan.)

(1) The mastery of skills involved in expression through any medium can be gained only through practice.

(2) The amount of practice for each individual should be controlled by his ability to gain the needed skill and not by some amount fixed by an adult for the group.

(3) The skill should be practised first in the presence of a need for it to clarify expression.

(4) Periods of practice should be short and frequent at first, growing less frequent as progress toward mastery is made.

(5) Progress in gaining a skill is made most effectively when practice is accompanied by interested attention and the desire to master.

(6) Each practice period should bring the satisfaction of conscious progress, or of intelligent effort that will lead to conscious progress.*

(7) The child must have a means of estimating his improvement.

Habits.—Habits are formed most effectively through repeated satisfying exercise. Habits of æsthetic consideration in regard to every day problems may be established by considering the arrangement of the Arithmetic paper, the bulletin board or the books in a book case, as well as the problems that occur in the traditional art lesson.

Attitudes.—With every "learning" there are feelings about the learning,—by-products of the learning itself. The fundamental aims of art teaching have failed, regardless of facts learned, skills acquired or results produced, unless there is a feeling of enjoyment associated with it.

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* Some periods will not bring *conscious* progress. See Plateau periods in learning, E. L. Thorndike. *Educational Psychology.* (Macmillan.)

On the basis of these recognized principles, the art work must be planned by the teacher who is in close touch with the children's needs and interests. The art supervisor may offer helpful advice in presenting principles from the standpoint of sequence but she must know the activities of each group if her suggestions are to be of value to the children.

In our natural eagerness for results it is well to remind ourselves that it is not the product but what the child gains in the making of the article that is important. Thus we shall let him feel responsible for what he is making by allowing him to learn and apply art principles for himself instead of directing the work for him step by step even though the directing leads to obtaining a better article.

In view of the fact that children vary in experiences and ideas, in facility in expressing ideas, and in motor skill, we cannot expect all children in the same grade to have the same art standards nor to acquire knowledges and skills to meet those standards in the same time.

Our next step then is to learn to recognize children's art needs, to provide such materials and principles as will satisfy those art needs with a view to further art activities.

We would consider then the (1) obvious art need, (2) the principle or technique that satisfies the art need, (3) the technique of teaching the principle, (4) application by the children, and (5) testing for growth.

CHAPTER III

DRAWING

The child in the elementary grades is no longer satisfied with the crude drawings that delighted him when he was in the primary grades. Now his picture must be legible. Then, he was pleased to be asked what his picture was about; now, he is offended if one cannot readily recognize what is portrayed. And where once he displayed his product proudly, he now slips it under cover at the approach of an observer. This timidity is the result of a rising standard of technique without a corresponding increase of skill in and knowledge of drawing. He is dissatisfied with the picture because the road does not lie flat or with the Indian because he "looks funny." If the child at this point continues to draw, he must have help in the needed technique.

STAGES IN DRAWING

To understand the problems that arise from a group in the elementary grades, one must understand the preliminary development of the group in the primary grades.*

Manipulative Stage.—Children greet a new material in the attitude of "putting it through its paces." They scribble with a pencil, daub with paint, make marks with crayon, without any attempt to draw anything. This period of getting acquainted with a material is called the manipulative stage. Young children require a longer time to proceed beyond this stage than older children but every one, regardless of age or material, should be given opportunity to try out a material that is new to him and find its possibilities before he begins to make something with it.

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* Margaret Mathias, *Beginnings of Art in the Public Schools*, chap. III and chap. X. (Scribners.)

Symbolic Stage.—From the manipulative the child advances to the symbolic stage when his drawing may be apparently a "scribble" or a daub but in reality to the child has meaning. He draws for the satisfaction of reliving his experiences and sees in an unintelligible jumble remarkable imaginative or reminiscent pictures. He takes pleasure in explaining this jumble of lines and masses to any sympathetic listener. This is called the symbolic stage because the child depends upon symbols or signs to tell his story. These symbols are often and in fact usually are radical departures from the conventional appearance of the forms they represent. He draws for himself alone; he explains the drawing when asked. Since he is the audience he does not need the accurate delineation of form and therefore does not need the ability and knowledge of drawing essential to truthful reproduction of form. Technique given at this time is imposed. Growth depends on a broadening of the field of expression of ideas. This field of ideas which he attempts to express should be as extensive as his field of experience.

Realistic Stage.—Following the period of drawing for his own personal satisfaction the child gradually becomes more desirous that his "sympathetic listener" be able to understand his picture without his explanation. He wishes his drawing to tell its own story to others as well as to himself. This means that he must use conventional forms that may be readily recognized. His house must look like a house if it is to say "house" to others. Since this necessitates having the drawing look like the object it represents we may designate this as the "realistic stage."

NEED FOR HELP IN TECHNIQUE IN REALISTIC STAGE

The realistic stage, as the symbolic stage, must provide for many worth-while experiences and encourage the retelling of these experiences, but it must go farther than the symbolic stage in that it must include such knowledges and skills as will permit the child to tell these experiences in a way that will satisfy his growing standards. People, previous to his time, have had the same desire to tell something and have been confronted by the feeling of inadequacy. As a result discoveries about drawing have been made. These discoveries will help the child to master the puzzling process of showing three dimensions on two. Help in technique now facilitates expression.

Gradual Development.—In thinking of the child as progressing from the symbolic to the realistic stage one must not think of him as plunging from satisfaction with symbols into a sudden desire to be able to draw photographically. It must not be expected that overnight he will cast aside his disdain for help in technique and demand a penetrating knowledge of the principles of drawing. His progress is gradual. The form that now approximates a house in appearance still may show both ends in the same picture and yet may satisfy the child. His standards gradually become higher. Rising standards require more skill and more technique.

The problem, then, is to supply technique in drawing as fast as the child is ready for it. Needs in representative

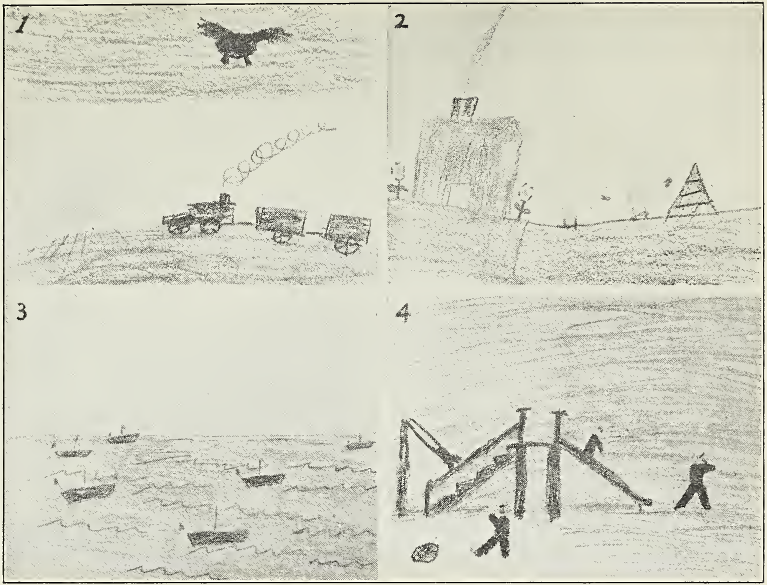


PLATE I. Children's drawings showing steps in development before there is any attempt to show distance:

1. Earth and sky do not meet. 2. Earth and sky meet but objects are placed on the horizon line. 3. Objects are distributed in foreground but do not extend above horizon. 4. Objects are distributed below horizon line and also extend above horizon, but there is no attempt to show distance by size and placing of objects.

drawing may be summed up in the topics: Perspective, Proportion, and Color.

PERSPECTIVE

Perspective refers to drawing objects as they appear. Help in perspective is needed as soon as the child is interested in having his drawing tell its own story. In giving help in technique we should aim to correct the most obvious mistakes first and proceed to the more remote. Thus we are interested in perspective in regard to a group of objects before we are concerned with perspective in individual objects.

The most obvious mistake children make in perspective is having a strip of blue at the top of the paper for sky and of green for grass at the bottom of the paper. (Plate 1.) To look out the window, if the view is not obstructed, a trip to the lake, a trip to the country or a talk about previous visits will call the children's attention to the fact that the earth and sky seem to meet, although there is actually "air space" between the earth and sky. (Fig. 2.) Younger children draw what they know is there rather than what they see at any one point of view. Thus after children have the earth and sky meet all objects rest on the horizon line since that is the "top of the ground." Further discussion distributes the objects in the foreground and background but may result in having the objects entirely within the ground space, the tops not reaching as high as the horizon line. (Fig. 3.) The class at a first floor window or on the playground will notice, when their attention is called to it, that many objects seem to reach up into the sky far above the horizon line. Fig. 4 shows the result of such a discussion.

Now we have arrived at the place where we have the earth and sky meet. The objects are distributed over foreground and background and reach up above the horizon line but so far we have no effect of distance. "How can I make this wigwam look far away and this one nearby?" is a typical question showing need for principles of distance. Distance is shown by

1st, Size. Objects seem smaller as they are farther away;

2d, Placing. Objects near to us are lower on the paper. Objects farther away are higher on the paper;

3d, Color and Value. Objects far away are grayed in color and values are close together. (See Color and Value.)

TEACHING PRINCIPLES OF SHOWING DISTANCE BY SIZE AND PLACING

Of these principles the first and second are the most obvious and the most essential and should precede the third principle. The first principle, distance by size, is quite easy to develop with children by a few questions. How can John make one wigwam look far away? Some child will suggest making it smaller. (Plate 2, Figs. 5 and 6.) Several children might then have an opportunity to tell the class about different experiences they have had when they noticed that objects far away are small. Perhaps they have been waiting for an automobile that looked so tiny when it first appeared they could not tell whether or not it was the one they were waiting for. Perhaps a train in the distance or houses or people were noticed.

But there is something else we must do if objects are to look far away besides making them smaller. The objects must be placed correctly. If the topography of the vicinity is comparatively level let the group go to the window. Start

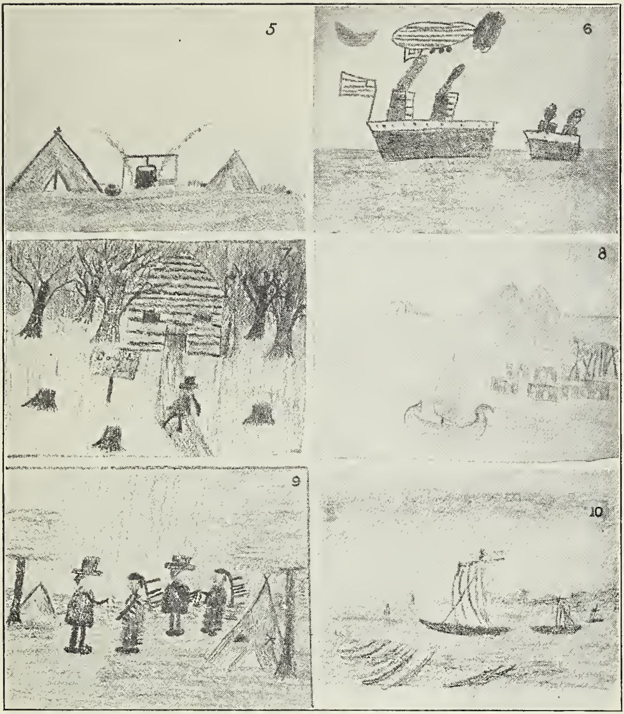
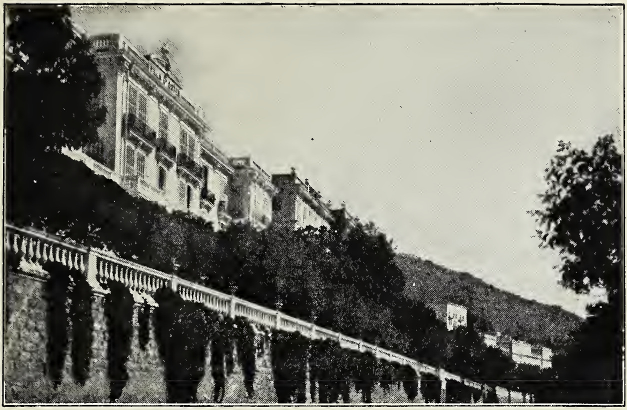


PLATE 2. Children's drawings showing steps in development in perspective through the application of the principles of size and placing. This series is a continuation of series on page 11.

5 and 6. Objects are made smaller to show distance but are not placed higher on the paper.
7 and 8. Objects are made smaller to show distance and also placed higher on the paper, but the tops of the objects which are far above the eye level are not placed lower on the paper as they are farther away.
9 and 10. Objects are made smaller to show distance and placed higher on the paper. The tops of the objects which are above the eye level are placed lower on the paper as they are farther away. However, the eye-level line does not cut all objects in the right proportion.



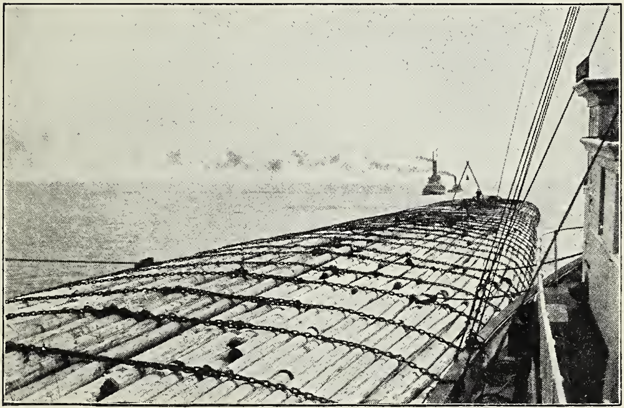


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PLATE 3. *A*. Objects that are above us are placed lower on the paper to make them look farther away.
B. Objects that are below us are placed higher on the paper to make them look farther away.

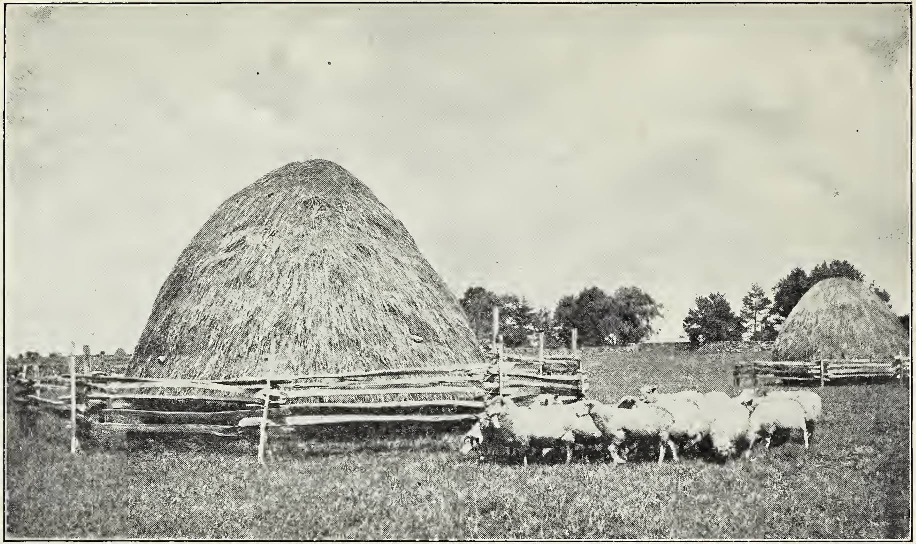


PLATE 4. The bases of the haystacks are below us. The base of the distant haystack is higher on the paper than the base of the one nearby. The top of the haystacks are above us. The top of the distant haystack is lower on the paper than the top of the one nearby.

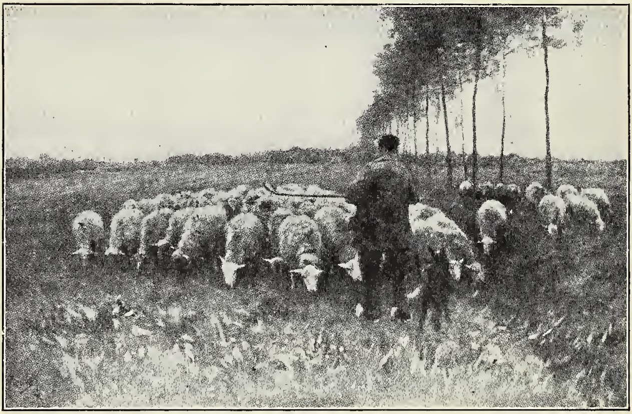
at the bottom of the window pane. What is the first thing you can see? Perhaps it is the line of the sidewalk—looking higher up on the window, the curb, then the other side of the street, then a tree, another tree farther away, a very distant tree. What is the relationship in distance of these points? The farther away the objects are located, the higher on the window they are seen.

The window shade may be used in this demonstration. Pull it down near the bottom of the window and only those objects nearby may be seen, roll it up farther and objects farther away may be seen.

Next look at the top of the window. We first see the top of the tallest object nearest to us. Looking lower we see the top of the next object farther away. As we look still farther from the top of the window, we discover that the objects we see are also farther away. We may make other similar observations and then conclude: *to show objects far away we not only make them smaller but also place them higher on the paper if the objects are below us.* (Plate 3B.) *If the object is high above us, then we place it lower on the paper to make it look far away.* (Plate 3A.) Very tall objects such as trees, buildings, haystacks or telephone poles have their lowest lines below our eye levels and their tops far above us so that to make them seem far away we make the bottom lines higher on the paper and the top lines lower on the paper. We can also notice that if the objects are smaller, to show distance, the top line will be lower even if the bottom of the object is placed higher on the paper. (Plate 4.)

If you find that the children become confused with both phases of the principle that objects in the picture below our eyes are placed higher to show distance (Plate 2, Figs. 7 and

8) and objects far above our eyes are placed lower to show distance (Figs. 9 and 10), omit the second phase, emphasizing the fact that objects farther away are placed higher on the paper and let the smaller size of distant objects take care of the lowering of the upper points.



Courtesy of the Metropolitan Museum of Art.

PLATE 5. "Sheep, Spring." Mauve.

Following the observation at the window, let the children look at pictures for the application of the principle. A large picture that all the children can see is best. If no large picture that is suitable is available, use pictures from the children's text books. For an example of the use of a picture in applying this principle, take the picture "Sheep, Spring," by Mauve. (Plate 5.) What is nearest to us in the picture?" The dog, then the man, then the sheep. Some sheep are nearer than others. Which sheep are nearer? Which are nearer, the sheep or the trees? Which tree is nearest? Which tree is farthest away? How has the artist shown which trees were far away and which were nearer? Have the children notice that the dog which is nearest to us is also nearest to the bottom of the picture; the man is a little farther away and is a little farther from the bottom of the picture; the trees are still farther away and higher in the picture. Notice how the tops of the distant trees are lower in the picture as they are farther away. Then have the children look for applications of the principles in the pictures in their text books.

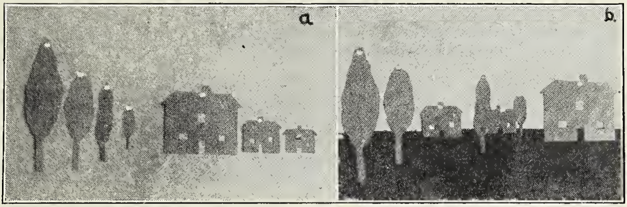


Plate 6. Exercise in applying principles of size and placing.

a. Certain children were asked to cut trees and houses at various distances. (Principle of size.)
b. A child was asked to place the trees and houses in the landscape as if he were standing on the ground. (Principles of placing.)

After the children have observed the use of principles of distance gained by size and placing in pictures, a simple exercise may be given during which one can readily judge whether or not the children have grasped the idea. Give several children pieces of paper and scissors. Ask one child to cut a house quite close to us, another a house to go with it farther away and a third a house very far away. Other children may cut trees seen at similar distances. (Plate 6a.) The class may judge whether their products are correct. The house or tree nearer us is largest, the one farthest away smallest. On the bulletin board place a large sheet of light paper and on it a strip of darker paper to show earth and sky. Then let a child come up and place the trees and houses in the landscape. (Plate 6B.) The class may decide whether or not the placing is correct. The application may then be made to the children's drawings.

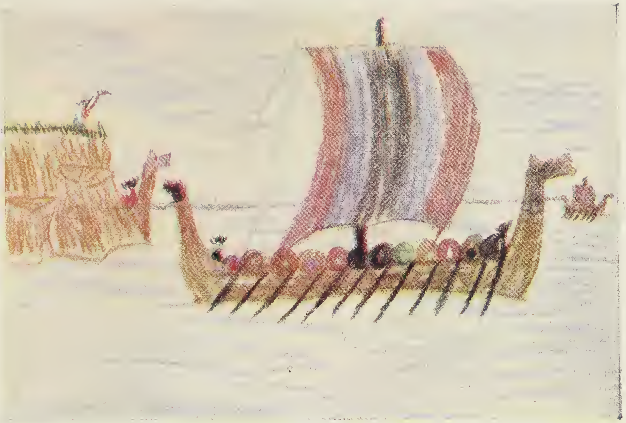
The advantage in using cut paper for this first exercise is that it eliminates difficulties in handling materials and centres the problem on the principle itself. As in teaching of other subjects, so in art instruction, concentration on one principle at a time is essential.

THE EYE-LEVEL LINE CUTS EVERYTHING IN THE SAME PROPORTION REGARDLESS OF DISTANCE

After the children have mastered the principle of size and placing the next principle needed refers to the relative sizes of objects in respect to the placing. All objects in the picture must be cut by the eye-level line in the right proportion. Evidence of need for this principle is illustrated in Plate 8A. The error is that the eye-level line or horizon line cuts the largest tepee near the top and the smaller tepees near the bottom. Whereas if the tepees were approximately the same height the eye-level line should cut all in the same proportion.

Plate 8B shows this corrected. The eye-level line cuts the three tepees at approximately the same level.

The principles of distance may be shown more easily on flat country or water than rugged country because the eye-level line is expressed in the picture in the horizon line, where the earth and sky seem to meet. In pictures of hills and mountains the eye-level line is often not shown in the picture. Of



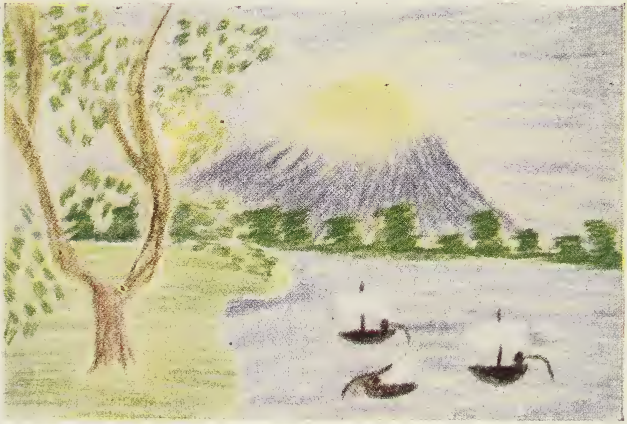


Plate 7. Children's crayon drawings showing the application of the principles of distance by the size and placing of objects.

course it must be indirectly expressed since everything changes appearance when it changes position in regard to being above or below us.

TESTS FOR PRINCIPLES OF DISTANCE

The principles of distance by means of size and placing of objects are most essential and should be worked on and mastered. Children should make many applications of the principles in various drawings rather than redoing one drawing. In order to find individual needs a simple test may be given. Give each child crayon and a sheet of 9x12 manila paper. Then, "We can tell things to others in many ways. We can use words or pictures. One day I took a walk. I am going to tell you in words what I saw. See whether you can tell it with crayons. I saw a great plain. Near me was a large tree. Farther away I saw a tree and a house beside it. Very far away I could see another tree and house. Do not draw me, just draw what I saw." Repeat the description if necessary.

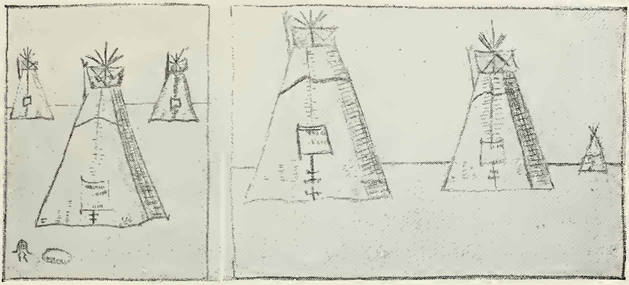


Plate 8. Drawings illustrating the placing of objects in relation to the eye-level line. Figure (left) shows incorrect placing. Figure (right) shows correct placing.

In marking the results of a test for the principles of distance, consider only those principles. Do not consider crayon stroke, color or form. Otherwise the diagnostic value of the test as to principles of distance will be lost. The drawings may be grouped according to the number of principles correctly applied (Plate 9):

(*a*) 8 points: Drawings showing applications of all principles discussed;

(*b*) 7 points: All principles applied but principle of relationship of objects to eye level;

(*c*) 6 points: Objects above eye level are not placed lower on paper for distance;

(*d*) 5 points: Objects below eye level are not placed higher on paper to show distance;

(*e*) 4 points: Objects are not smaller to show distance;

(*f*) 3 points: Objects do not extend into sky;

(*g*) 2 points: Objects are not placed below horizon line;

(*h*) 1 point: Earth and sky do not meet.

Children belonging in these various groups should receive help according to the needs of the group. Those children who understand the principles may go on with drawing what they wish. Those whose drawings show lack of understanding of the principle of placing should have special help and so on with the various groups, just as children of various abilities in reading or arithmetic should be helped in small groups according to their needs.

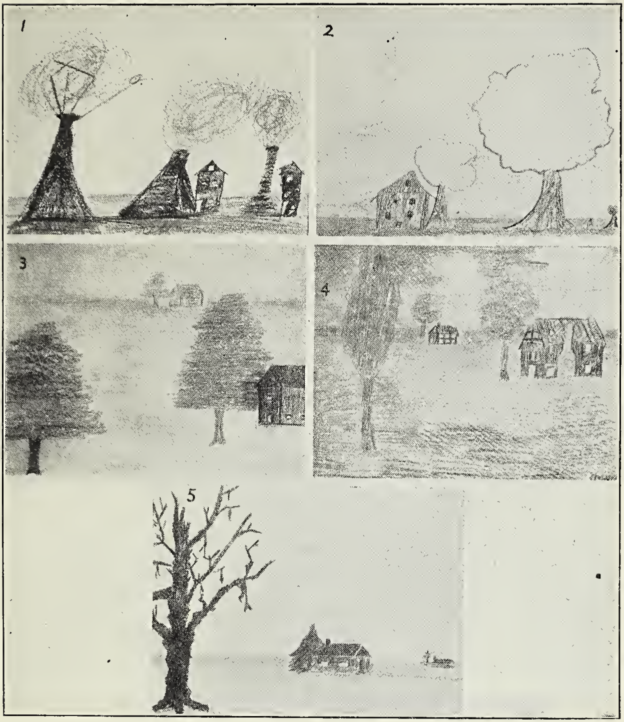


PLATE 9. Test drawings showing different levels in application of principles.

No. 1—4 points. Objects are not smaller to show distance.
No. 2—5 points. Objects are smaller to show distance but are not placed higher on paper.
No. 3—6 points. Objects are placed higher on paper but tops of objects which are above eye level are not placed lower to show distance.
No. 4—7 points. Objects which are above eye level are placed lower on paper but eye level does not cut similar objects in same proportion.
No. 5—8 points. Drawing shows application of all principles discussed.

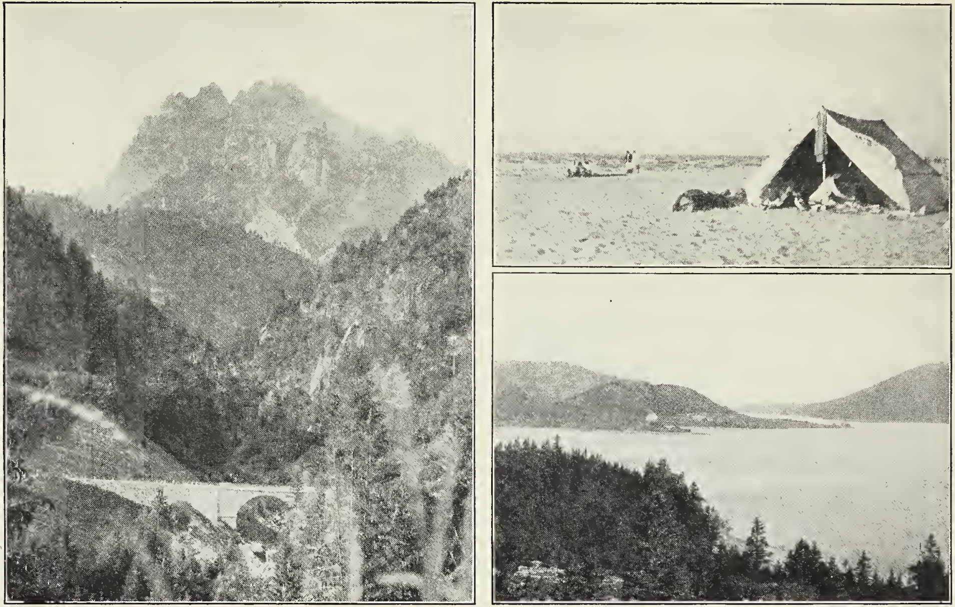


PLATE 10. Types of landscapes, plain, hills, and mountains.

TYPES OF LANDSCAPES

In connection with geography children need to know how to show types of landscapes. Much can be told in landscapes by the sky line. The flat plain or expanse of water is shown by a straight sky line. To emphasize flatness the sky line is low on the paper making a division of a large amount of sky and small amount of land. The hilly or rolling country is shown by placing the sky line higher on the paper and breaking the sky line in low curves. The mountainous country is shown by pushing the sky line far up on the paper and making it into a rugged, jagged line. (Plate 10.)

How to Show Difference between Plain and Mountainside.—The difference between plain and mountainside may be shown by making the objects higher on the paper without making them correspondingly smaller. (See Plate 56.)

NEED FOR PERSPECTIVE OF OBJECTS

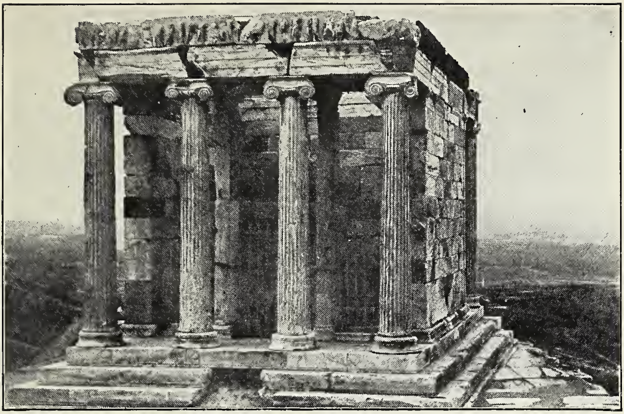
Children find that general principles of distance are not always sufficient for their needs. This is evident in their attempts to draw objects of more or less geometrical form, such as log houses in illustration of Colonial life, castles in connection with the study of life in the middle ages or utensils illustrating industrial development. The drawing principles needed are the principles of angular and circular perspective. Angular perspective has usually been taught as a mechanical process involving the use of rulers in locating eye-level line and vanishing points and the apparent positions of parallel lines. This procedure is undoubtedly excellent for older art students. However, when presented in this way to younger children the result is that the children become interested in the mechanical process itself. And instead of helping them to better expression, it tends to inhibit expression. Instead of using the new knowledge to improve the drawings that revealed the needs, the children use it to make long lines of barren looking buildings or lines of disappearing telephone poles. The very accuracy of a ruler in free hand sketching is discouraging to expression because the finality of the ruler-drawn line does not stimulate elaboration and the mechanical exactness of ruler lines emphasizes the inaccuracies of a "free hand" line if combined in the same drawing.

The child's need, as well as the need of the average adult, is for an approximate use of perspective rather than an exact mechanical application.

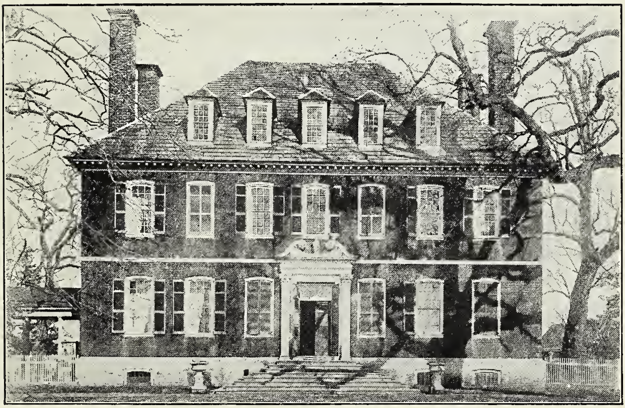
OBJECT DRAWING BASED ON PRINCIPLES OF SHOWING DISTANCE

The approximate perspective needed in object drawing is an application of the principles of distance previously discussed. The children should understand thoroughly the principles of distance by size and placing. This can be determined by their drawings and also by a simple test such as has been described. Applying the same principles children find that they can show the third dimension or depth to a house or any object of three dimensions: (1) Objects near are large, far away small. (2) Objects far away are higher on the paper. The corner of a house nearest to us is longest; the corner farthest away is shortest; the corners farthest away are higher on the paper. (Plate 11A.) The same application may be made for all rectangular objects. (Plate 12.)

Children will also notice when it is brought to their atten-



A



B

PLATE 11. When we look at a rectangular object so that we see two sides we see both sides obliquely. The corner nearest us is the longest corner. The lines above us slant down and the lines below us slant up. (Fig. *A*.)
When we look directly at one side of a rectangular object the horizontal lines remain horizontal. (Fig. *B*.)

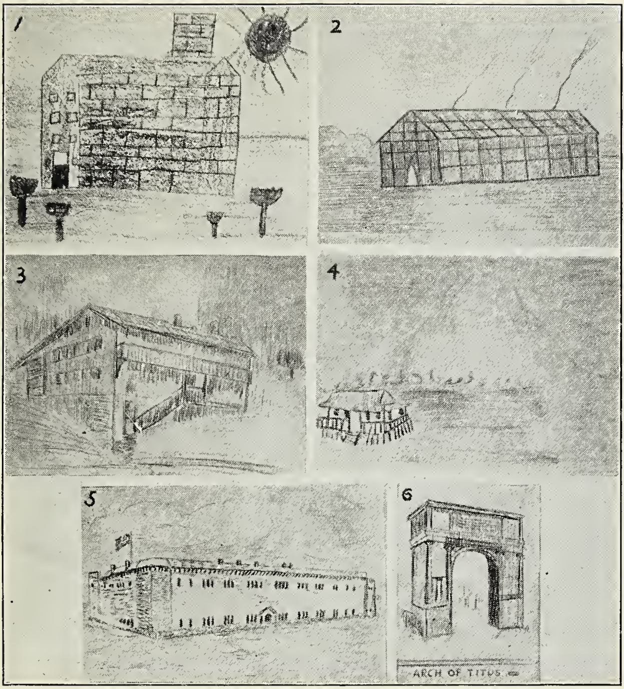


PLATE 12. Group of children's drawings showing the application of principles of size and placing to the drawing of rectangular objects.

Nos. 1 and 2 show need for application of principles of size and placing in the drawing of rectangular objects.

No. 3 shows application to rectangular object above eye level.

No. 4 shows application to rectangular object below eye level.

Nos. 5 and 6 show application to rectangular objects when the top is above eye level and the base is below eye level.

tion that when we look directly at one side of a rectangular object the horizontal lines remain horizontal and neither slant up nor down. It is only when we look at the sides at an angle that the horizontal lines seem to change their directions. (The vertical lines always remain vertical.) (Plate 11B.)

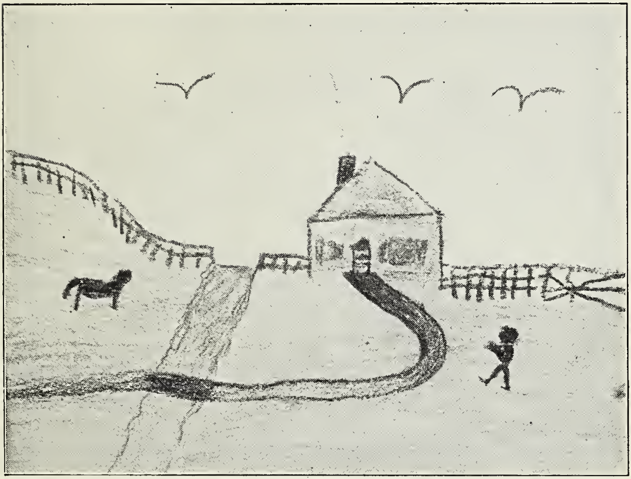


PLATE 13. Child's drawing showing need for principles of distance. Notice that both the brook and the road are as wide in the distance as they are in the foreground.

The drawing of roads and rivers also gives children difficulty. The same principles of size and placing apply. Since roads and rivers are below us, they are drawn higher on the paper to show distance. The lines are closer together as they are farther away following the principle of size (Plates 13 and 14.)

ROOMS

Children often wish to draw rooms to illustrate a history topic. The corner of the room is the short line since it is farther away. The ceiling lines slant down toward the corner and the floor lines slant up. (Plate 15A.) If one is facing one wall the lines in that wall remain horizontal. However, two of the walls will be viewed at an angle. The horizontal lines in these walls seem to change their directions —those above us slant down and those below us slant up. (Plate 15B.)

A summary of the principles of perspective will be of help to the teacher:

Vertical lines remain vertical;

Horizontal lines remain horizontal if viewed directly. If viewed obliquely, horizontal lines seem to change direction. If above the eye level they slant down; if below the eye level, they slant up toward a point on the eye-level line called the vanishing point. All parallel lines seem to slant toward the same point.

These principles will help the teacher in analyzing the mistakes in the children's drawings. Children only become confused with extended lines. They are best helped by simply applying principles of size and placing as previously stated. The principles of mechanical perspective should be introduced only after the children have the "feel" of perspective through the larger principles of size and placing and they can apply these principles. Under normal conditions children will not be ready for the principles of *mechanical* (that is the use of vanishing points) perspective before the end of the sixth grade or junior high school.

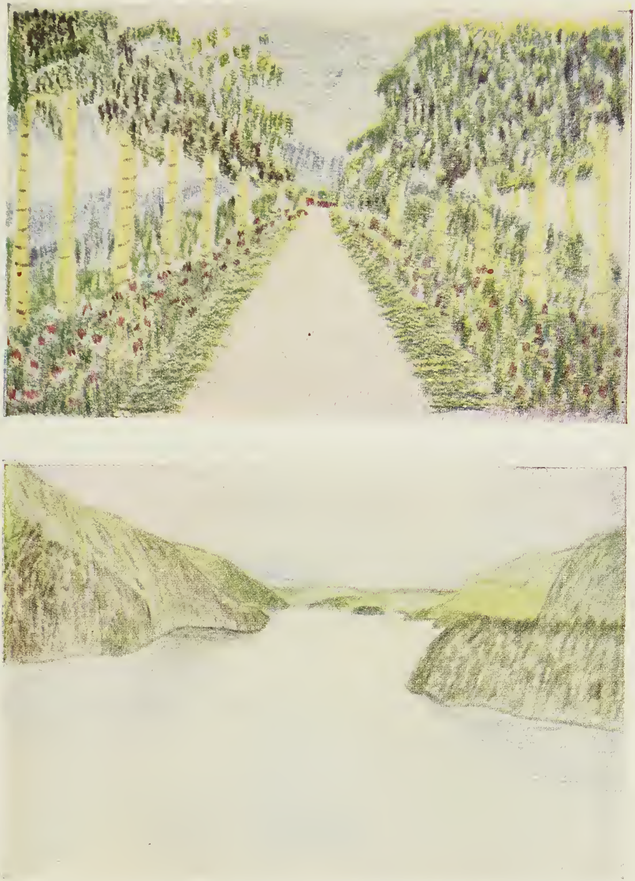
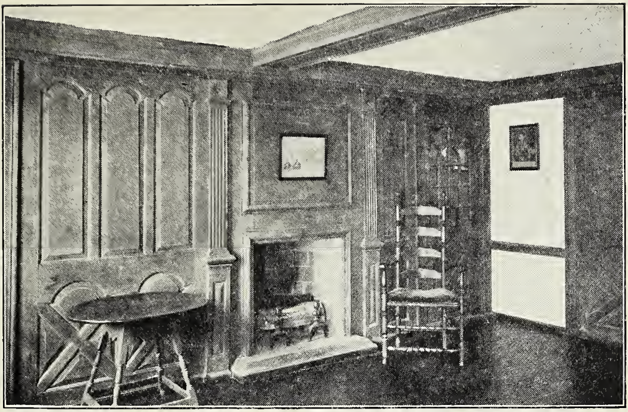


Plate 14. Children's drawings showing application of principles of size and placing applied to the drawing of roads and rivers.



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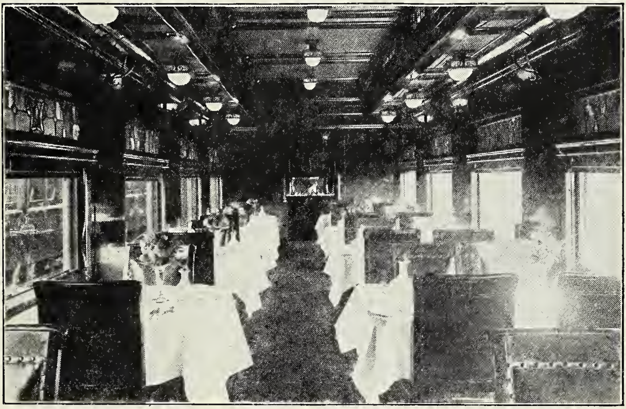


B

PLATE 15. The corner is farthest away. The ceiling lines slant down. The floor lines slant up. (Fig. *A*.)
Since the observer is facing the end of the car the lines in that wall remain horizontal. The two sides are seen obliquely and the lines change their directions. (Fig. *B*.)

CIRCULAR PERSPECTIVE

Children need the principles of circular perspective in drawing utensils as in connection with the study of Colonial life; in drawing wheels illustrating the development of travel; in drawing castles as a part of the study of mediæval life and in drawing flowers as part of nature study.

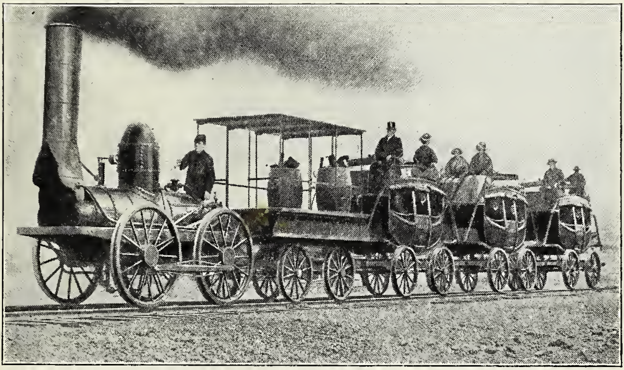


PLATE 16. The more obliquely the circle is viewed the narrower the ellipse.

Showing a circle foreshortened is quite puzzling to the uninitiated. The first attempts at showing circular or cylindrical objects result in showing the foreshortened circle as round instead of elliptical. The circle is foreshortened into an ellipse. The ellipse varies in width from the almost complete circle to the straight line depending on the angle of observation. Looking directly at a circle, the circle appears as a circle. As the circle is viewed more obliquely the ellipse becomes narrower until viewed from a directly side view it becomes a straight line. (Plate 16, Plate 17.)

Teaching Circular Perspective.—Circular perspective is best taught by observation. Use a cylindrical object, a large waste basket or hat box and show in different positions. Let the children try representing it at the blackboard. They will soon discover that the circle viewed obliquely appears as an ellipse. Pictures of circular objects viewed from various positions will help clarify for the children the process of representing the foreshortened circle.

The circle below the eye level is usually the first to be successfully represented by children. The appearance of a circle above the eye level may be shown by rolling a large piece of construction paper and placing it high above the eye level. Place light paper against a dark background or dark against light in order to show the curve clearly. The children will observe that the highest part of the curve is in the centre and the lowest part is at each side and that only the front of the ellipse is visible unless the object is transparent.

Even though these principles seem very obvious to the teacher, nevertheless, foreshortening is puzzling and children should be allowed plenty of time to learn to see.

Practising Drawing Ellipses.—As soon as children try to represent circular objects they realize the difficulty of drawing an ellipse and recognize the need for practice. They should practise "swinging in" an ellipse with free arm movement, first working for a well-shaped ellipse and then working for control in producing wide and narrow ellipses. Need will show that the children should also work for control of the length of the ellipse.

Practice should be carried on for short periods only. Of

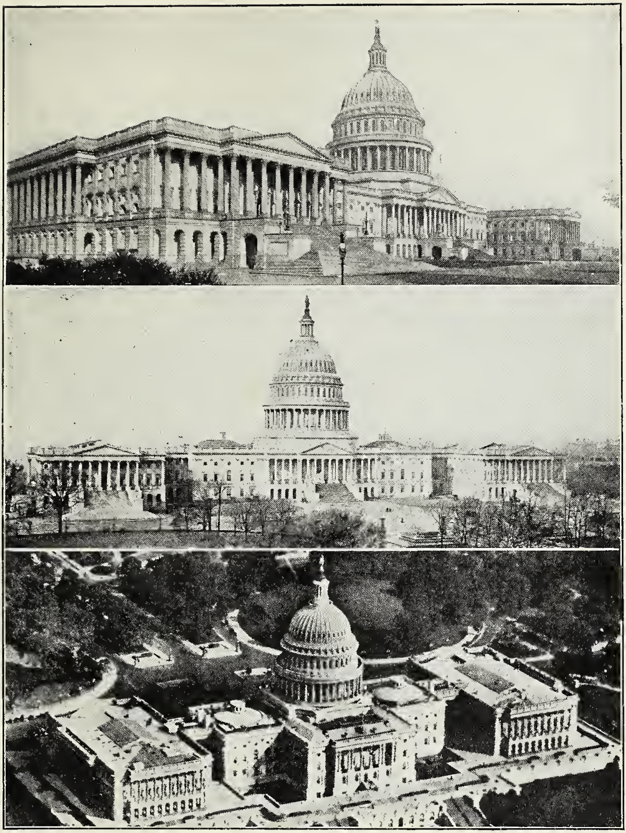


PLATE 17. Notice changes in appearance of the dome when it is shown above us, on our level and below us.

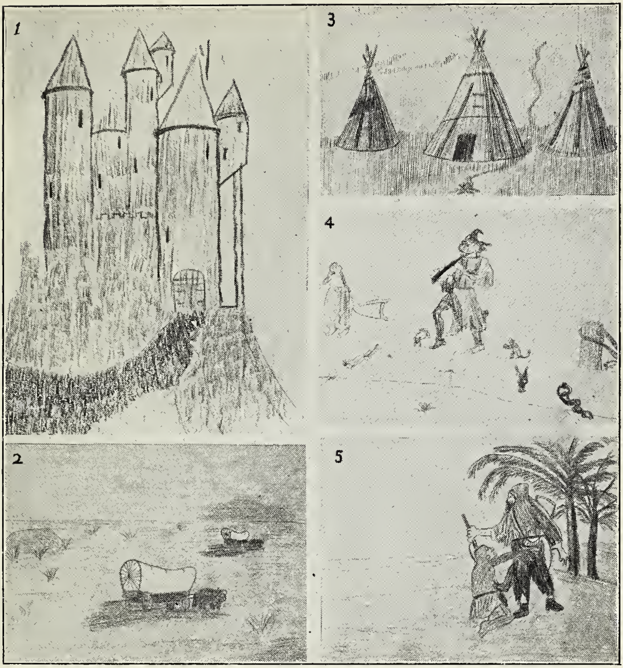


PLATE 18. Nos. 1, 2, 3 show children's application of the principles of circular perspective. Nos. 4 and 5, children's figure drawing.

course it is quite useless to assign practice lessons. Children must be conscious of the need to practise before practice will be beneficial. (See Chap. II.)

Foreshortening Circular Object.—Any circular object is foreshortened like a circle. Children find keys to the drawing of many things when they understand circular perspective. (Plate 18, Figs. 1, 2, 3.)

Tests.—Simple tests may be worked out for determining which students need special help. Ellipses may be evaluated according to symmetry and continuous curve.

For discovering the grasp of knowledge of the perspective of a circle above, on, and below the eye level, this test was given: John stood on a level plot of ground. Near him but reaching far above him was a round tower. Just opposite his eyes was a window in the tower. On the sill was a round flower pot. At his feet near the tower was a large round flower bed. Show on paper what John saw.

The drawings may be grouped according to the number of principles correctly applied (Plate 19):

(*a*) 5 points: Ellipses show correct relative proportion. The window sill is shown by a straight line. The top of the flower pot is the flattest ellipse, the top of the window next, then the bottom of the tower and the flower bed. The widest ellipse is seen at the top of the tower.

(*b*) 4 points: Window sill and bottom of flower pot are shown by straight line.

(*c*) 3 points: Top of tower, top of window and top of flower pot are drawn to show circle above eye-level line. (Lines curve down from centre.)

(*d*) 2 points: Flower bed and bottom of tower are drawn to show circle below eye level. (Lines curve up from centre.)

(*e*) 1 point: Lines are curved, showing attempt at foreshortening. (Circular parts are not drawn round.)

Those children whose drawings show an understanding of the principles of circular perspective may go on making more

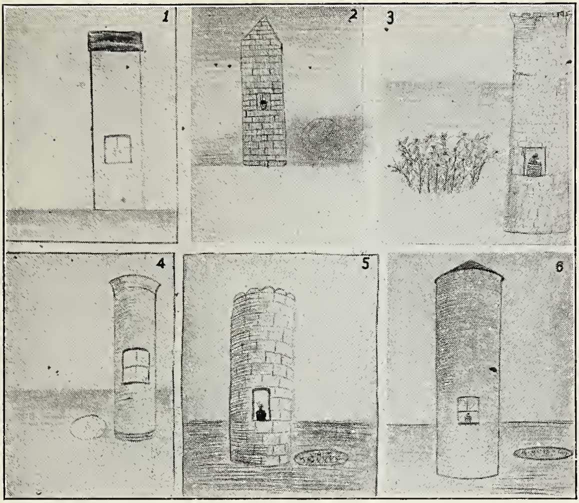


Plate 19. Test drawings showing different levels in application of principles of circular perspective:

1. Shows no attempt to foreshorten circle.
2. Lines of flower-pot and flower-bed are curved showing attempt at foreshortening.
3. Flower-bed and bottom of tower are shown as circles below eye level. (Circles above eye level are not shown above eye level.)
4. Top of tower and top of window are shown above eye level. (Window sill on eye level is not shown by straight line.)
5. Window-sill and bottom of flower-pot are shown by straight line. (Ellipses are not correct in relative proportion. Top of flower-pot is nearest eye level and should be narrowest ellipse.)
6. Principles of foreshortening of circle below, above, and on eye level are observed. Ellipses are also in correct relative proportion to show relative distances from eye level.

drawings, while the children who obviously do not understand it should have more help.

PROPORTION

Proportion is also essential to good drawing. The first reference to proportion is to improvement in relative proportion between objects. Later children need help in getting better proportion in individual objects in the picture. This is best accomplished by learning to "block in" objects, which means locating the object with a few essential lines. A separate lesson or series of lessons should be given in which the emphasis is placed on blocking in objects. First locate the top and bottom of the objects; then decide on the width in relation to the height. Sketch in essential lines. Compare result with the object. Make changes to correct the proportion. Locate principal details. Check. Add more details. Check for proportion.

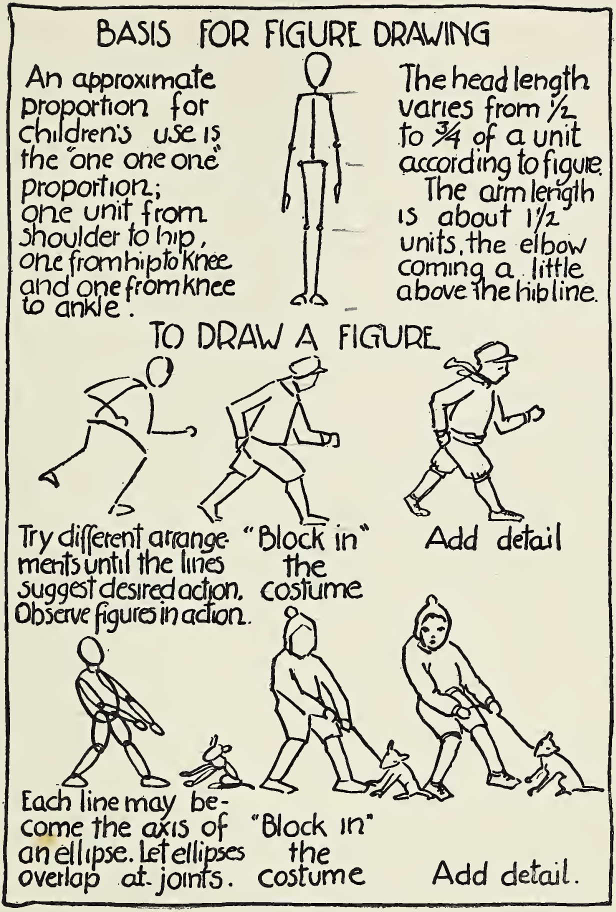
Children have a natural tendency to draw large what interests them most. Older children express their major interests by drawing them first. This means that they hasten to put in details such as shoe buckles, buttons on a coat, windows in a house, before the main proportions are located. The more the details the more difficult it is to see mistakes in proportion. Therefore, children should learn to sketch with a few lines and compare with the original objects. The first steps toward blocking in objects should be merely suggestions to the child that he locate the top and bottom of the objects. Later he can do more serious work in proportion. An excellent practice for children in fifth and sixth grades is to "block in" objects about the room and have other children criticise them. This may be done a few minutes at a time on the blackboard, or two or three children can practise together drawing and criticising the other drawing. It is by such exercises that ability to make accurate space perceptions is developed.

Proportion in the Human Figure.—Children have great delight in drawing people. While no attempt is made in the elementary grades to equip every child with a high skill in figure drawing, yet a few simple suggestions will help children to much more satisfactory results.

The simplest proportion for children to work with is the one-one-one proportion, that is one unit from shoulder to waist, one from waist to knee and one from knee to foot. The head is added. The arm, including the hand, is about one and one-half units. The elbow is near the waist and the tips of the fingers reach about three-quarter way to the knee. (Plate 20.)

Stick Figures.—These proportions are complicated for children unless presented on a simple basis. That simplicity is best gained by using stick figures for foundations. By means of straight lines the essentials of the body may be shown, a line for the back and lines for the arms and legs.

Children can quite quickly construct figures that sit, walk, run or skate by trying the lines in different ways. One child may go through the desired activity in order that the children can see how we walk or run. After the foundation is constructed the children can add flesh and clothes. Many art supervisors concede it best to require little children to use stick figures "unclothed" until they can get good drawing of figures. This is quite an artificial procedure since it is the advanced student and not the child who sees the "bony structure" underneath the clothes. The stick figure is used merely



BASIS FOR FIGURE DRAWING

An approximate proportion for children's use is the "one one one" proportion; one unit from shoulder to hip, one from hip to knee and one from knee to ankle.

The head length varies from ½ to ¾ of a unit according to figure. The arm length is about 1½ units, the elbow coming a little above the hip line.

TO DRAW A FIGURE

Try different arrangements until the lines suggest desired action. Observe figures in action.

"Block in" the costume

Add detail

Each line may become the axis of an ellipse. Let ellipses overlap at joints.

"Block in" the costume

Add detail.

PLATE 20.

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OF ALBERTA

as a help in gaining proportion and action in figures and is a means to that end.

However, children may practise quick sketches of stick figures to show many kinds of activities. The practice should be closely allied to actual use, otherwise it is likely to become aimless. (Plate 18, Figs. 4 and 5.)

Another basis for figure construction that is quite simple is the use of ellipses for body, head, arms and legs. The ellipses must vary in width, long and narrow for the upper and lower arms and legs, wider for the body and head. The advantage of using ellipses is that they give more feeling for the curves of the body and also that they provide thickness of the body. However, it must be remembered that the ellipse requires skill both in drawing it the right size and proportion and also in getting it in the desired direction. With younger children, therefore, stick figures would seem more helpful. Later each straight line of the stick figures may become the axis of an ellipse. The use of the ellipse as a basis of figure drawing provides much natural motivation to practice in drawing ellipses. (See page 42, "Practice in drawing Ellipses.")

COLOR

In addition to Perspective and Proportion, distance is shown by color. (See page 90, Color—hue, value, intensity.)

(1) Hue.—Warm colors emphasize the foreground. Cool colors suggest distance. The children may look at the landscape and see the distant blues and violets.

(2) Value.—(*a*) Strong contrasts in value emphasize objects and make them seem nearby. Distant objects seem

closely related in value. Children may observe this in distant trees that appear to be of one value; while the trees nearby are made up of different values. (*b*) The sky is dark overhead and lighter near the horizon. The ground is dark in the foreground and lighter near the horizon.

(3) Intensity.—Distance grays colors. Therefore the most intense color is in the foreground and distant objects are grayed or neutral.

The use of color by the children to show distance should be preceded by an understanding of the qualities of hue, value and intensity and an opportunity to observe the application of the principles in landscapes. Since young children have an undeveloped color sense, it is better to delay extensive work in color as related to distance until they are more discriminating in color differences.

DRAWING MATERIALS FOR ELEMENTARY GRADES

Materials should be selected for elementary grades on the basis of the following standards:

(1) Does it fit the needs of the child?

(2) Does its use give satisfaction?

(3) Does it provide for growth and development for the average child?

(4) Is it material that the average child can use and will continue to use or will its use lead to some other material that he will use as an adult?

Paint is a good material for young children. Water color paint is not as well adapted to the needs of the average child as has formerly been believed. It is transparent and requires skill in handling besides necessitating careful planning. Opaque water color, show card or fresco paint is better because it provides for definite masses. Oil paint is too expensive and complicated a medium for elementary grades.

Paper cutting is good for proportion and arrangement. However, it does not provide for the detail desired by the elementary grade child as he invariably adds details in pencil to his idea expressed in cut paper.

Crayon is an excellent material since it is convenient, provides color and involves much the same technique as that of pencil, which is the adult's standard medium. Pen and ink are useful materials later and are similar in technique to pencil.

TECHNIQUE OF DRAWING MATERIALS, PAINT, WATER COLOR, CRAYON, PENCIL, PEN AND INK

Every drawing material has its own technique dependent upon the peculiarities or possibilities of the material. Brush and paint give mass most easily. The result of a moving pointed medium, such as pencil, crayon or pen, is a line.

Younger children should use opaque paint instead of water color on account of its more brilliant color and the satisfaction it affords in use. As soon as children desire more detail they use crayon and pencil on top of the paint. This shows readiness for a medium which allows more detail. Pencil is undoubtedly the standard drawing medium for the average adult but pencil lacks color. Crayon bridges the space between the large opaque painting of the young child and the pencil drawing of the older child. It has proved to be an excellent material for the Third, Fourth and Fifth Grades when it is considered seriously and when there are definite standards introduced.

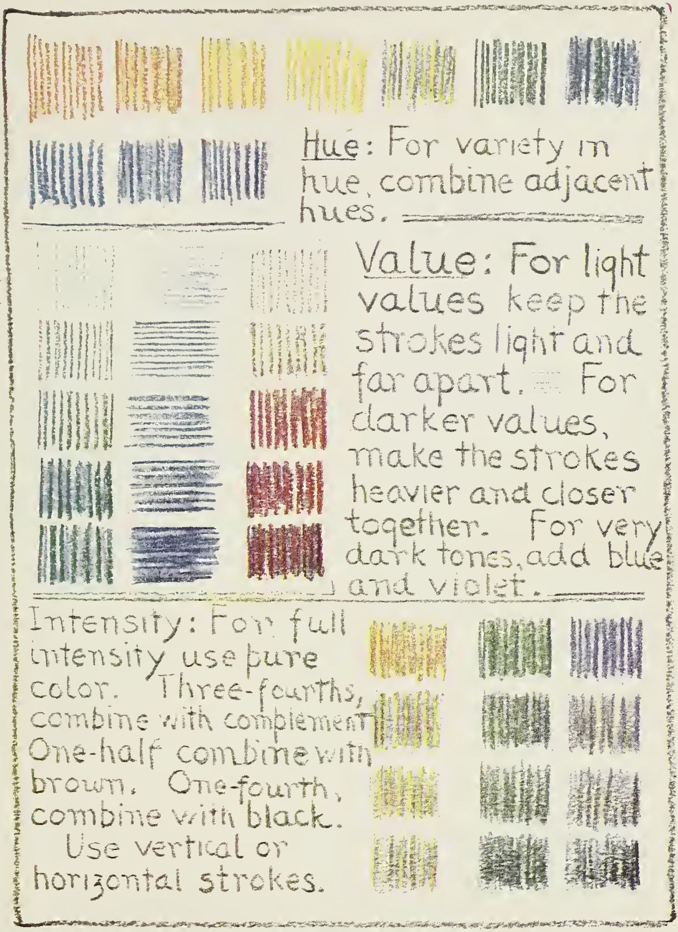
When children first begin to use crayon they outline and then fill in masses, rubbing in the crayon until it fairly shines on the paper. Every direction of stroke is used. The first step in crayon drawing is to plan the picture and then fill in masses, using one or two directions of strokes either vertical, or horizontal, or both. We hear much about having the stroke take its cue from the object itself suggested by its texture but children do not see texture very clearly. At this time the problem is to put on the crayon stroke to show a flat mass. This is best done by using two directions of strokes. In putting on these strokes, work for straight open lines, for no effort need be made to merge the pencil strokes in order to imitate water color.

After children have reduced their drawings to strokes of two dimensions the next step may be taken in technique. It is found that objects in the picture do not "stand out." This is because there is too much sameness in value. This is the time to review "value" (see page 94). Emphasize the fact that we see objects as the result of light and dark. Examples in the room may be noted or pictures may be looked at for instances of placing a light object against a dark background to make the object clearer. This shows children how to get light and dark values with crayon and the following rules will be helpful:

(1) Light values are made by making light strokes far apart (Plate 21);

(2) Dark values are made by making heavier strokes closer together. Children can practise blocks of several values from light to dark.

Each step should be applied to the children's drawings and improvement should be evident in successive drawings rather than in doing the same drawing over several times.



Hue: For variety in hue, combine adjacent hues.

Value: For light values keep the strokes light and far apart. For darker values, make the strokes heavier and closer together. For very dark tones, add blue and violet.

Intensity: For full intensity use pure color. Three-fourths, combine with complement. One-half combine with brown. One-fourth, combine with black.

Use vertical or horizontal strokes.

PLATE 21. Crayon technique.

(3) More brilliancy in color may be introduced. There are only six colors with brown and black in an ordinary crayon box. These should be arranged according to the spectrum (R.O.Y.G.B.V.) for convience in locating each color.

Additional differences in the value of a color may be obtained by using with it a darker color for a darker value and a lighter color for a lighter value. Thus distant purple trees may be lightened by adding yellow. The shadows of trees may be shown by adding blue and violet.

Intermediate hues may be gained by combining two adjacent colors. Thus yellow and green may be combined for yellow green. Red and orange for red orange. Various intensities may be obtained by combining complementary colors. (Plate 22.)

"Blocking In."—Very light pencil lines may be used for blocking in the picture. If there is unusual difficulty in keeping the pencil lines very light, white chalk may be used for outlining masses. After the masses have been put in with crayon the chalk lines may be easily erased.

As soon as children have any definite direction of stroke to put in, in order to tell something, they should be allowed to use it. The progression is from the helter-skelter strokes to strokes of two directions, and later to strokes that show by their direction the texture of the objects.

PENCIL

Much skill acquired in crayon drawing may be carried over to pencil drawing. Pencil drawing is preferred by older children. It affords more detail than crayon and is graphic and satisfactory. The pencil stroke is first a straight line, vertical and horizontal.

First the drawing should be "blocked in" (see page 49). The masses and principal shadows should also be lightly outlined. Pencil is entirely dependent on light and dark since there is no color. The lightest masses should be located, then the darkest masses and then those between the lightest and darkest. These values should be put down in order to assure a sufficient breadth of values for the drawing. Light masses should be put in first and then the next darker and so on, leaving the darkest masses until last. As in crayon drawing, children should be allowed to change the direction of stroke whenever they have progressed far enough to have a purpose in doing it.

WATER COLOR

Water color as a material for children's use has undoubtedly been over-stressed. It is a difficult material to handle and a material that does not readily lend itself to all types of drawing. Water color is the "poetry" of graphic expression as compared to crayon and pencil as the prose. Much discouragement in drawing is experienced by children in attempting to use water color for illustrative sketches which are better suited to crayon. While crayon is the best staple material it is well to provide water color for children's use as an additional material. Children should be allowed to choose it and yet no attempt should be made in the elementary grades to have every child attain proficiency in the use of water color. The difficulty of water color as a material lies in the fact that it is hard to control; that is, it is likely to "run" if the paint is applied too soon. This may result in grotesque form or muddy color. Also the values are much lighter after the paint is dry. The ability to use these quali-

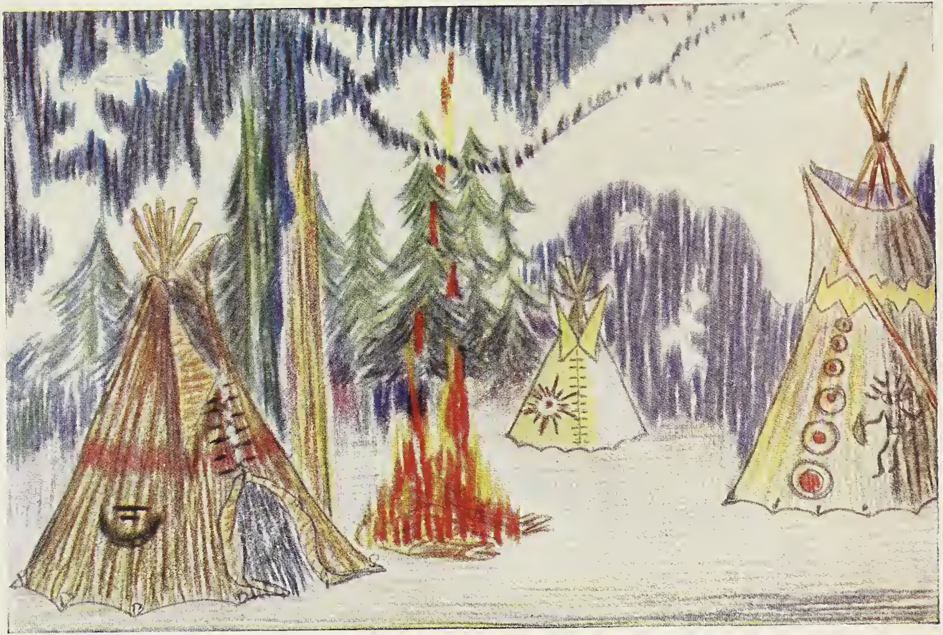


Plate 22. Crayon drawing showing use of strokes of two directions, vertical and horizontal.

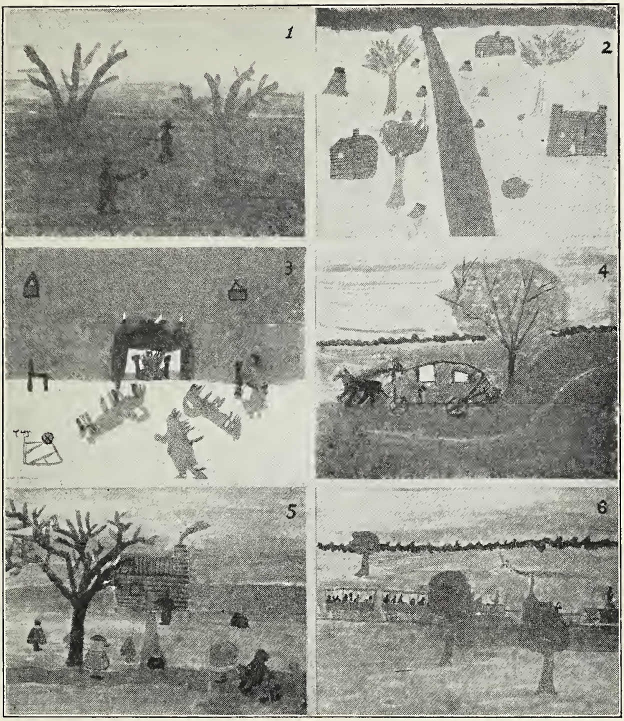


Plate 23. Paintings selected from a group done by children to illustrate reports on the history of their city.

1. "Chopping Down the Trees."
2. "The Houses"
3. "The Friendly Indians Lay on the Tavern Floor and Made It Hard to Sweep."
4. "The Stage-Coach."
5. "The School."
6. "The First Train."

(See Plate 24.)

ties peculiar to the material, to produce fresh crisp effects, results in the charm of water color painting. Every one who is at all familiar with it is acquainted with the delightful results obtained with water color when the material is under control and the "sad" results of a hopeless smear when the material has not been mastered.

In making a drawing with water color, the sketch should be first planned as in a crayon drawing. Some artists sketch in light pencil lines. Others paint directly. Since children are likely to make the pencil line and merely fill in the outline, it is better to encourage them to paint directly. Children should be taught to keep the paints and brushes clean so as to get fresh clear color. Paint should be used directly from the cake and allowed to mix in the brush and on the paper in order to get clear color. Since much of the failure results from having the paint "run," it seems better for children to use the "dry method" of water color painting. That is, the paint is put on a dry piece of paper instead of first washing the paper with water.

If the surface to be covered is flat, without an attempt to show modelling, the paint should be mixed first and then applied by filling the brush with paint and carrying across the paper. Slant the paper slightly and the paint will flow toward the bottom of the brush stroke. Begin at the left hand side for the next stroke and with a well filled brush connect the second stroke with the first. This is called the "flat wash" and at one time occupied a very prominent part in art courses. But it is not considered a vital necessity now for the layman to be able to put on a flat wash with complete smoothness. If flat color is desired it can be obtained in colored paper or in the use of opaque paint.

Teachers and children in the upper elementary grades are showing a decided tendency toward the use of opaque water paint. They ask to be supplied with the same equipment that is provided for the primary grades. This paint purchased in powder form and mixed as needed provides a material for the painting of backgrounds, stage scenery and large pictures for class use. It is much more satisfactory than transparent water color since it is more easily controlled. It is especially well adapted to the painting of illustrations for group activities. The principal colors should be provided. Children may use these to mix intermediate colors and learn much about color in getting the desired value and intensity. (See page 91, also Plates 23 and 24.)

REFERENCE MATERIAL

The purpose of drawing to the child in the elementary grades is to give him another medium of expression. It supplements language as a means of conveying his ideas. This use of drawing necessitates his having command of the race-experiences, knowledges about the drawing process and an acquaintance with the technique of the material. This corresponds to "grammar and spelling" as a part of English composition.

However, there is much "fact material" that he must have if his story is to be truthfully told. He cannot tell about Indian shelter unless he knows about it. Just as he needs knowledge before he can write so he needs reference material from which he can procure reliable information. This reference material should be made up of pictures mounted and filed. Pictures should be chosen for their accuracy and worth whileness. All the children should contribute to the

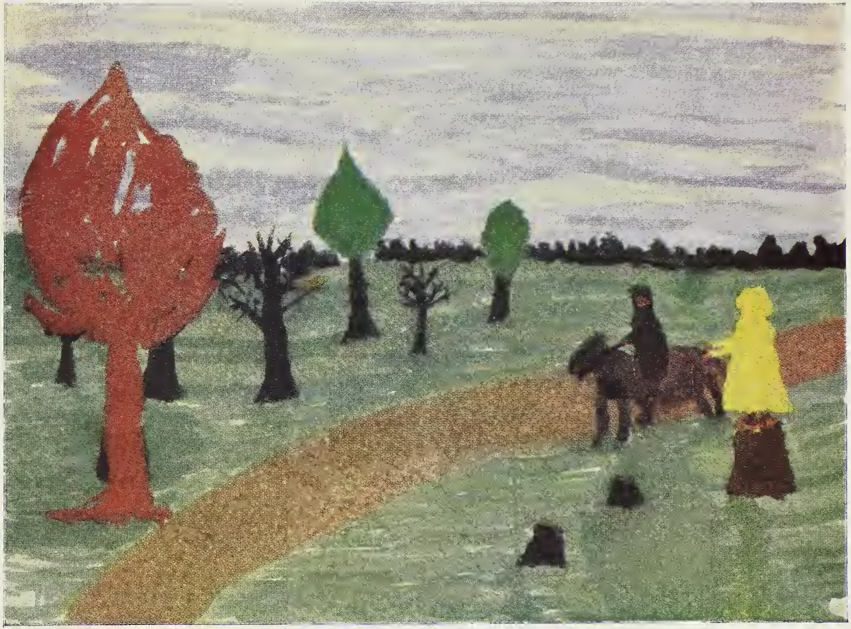


PLATE 24. Going to a Dance. One of the series of large paintings illustrating history. (See PLATE 23.)

collection. The collection should be kept in a file available to all the group or class.

USE OF REFERENCE MATERIAL

Children should use the material in order to obtain some definite information and not for aimless copying. For instance a child was looking through the file when the teacher asked him what he was looking for. He said "I am drawing a picture of the jungle in Africa and I want a giraffe in my picture. I don't know just how his legs look and I am looking for a picture of a giraffe." This is a typical instance of the right use of the file. Since there were no real giraffes at hand to supply the needed information, a picture was used as the best substitute. Later another boy was looking through the file and when asked his problem, he said "I am looking for something to draw. I can't think of anything." This is the wrong use of the file. The file should serve as an encyclopedia or dictionary and should be used for information and not for source of ideas.

Children should be taught that a drawing is a personal possession. The drawings in the file are the work of other persons. If they are used as reference, credit should be given to the artist by the child who is using the picture.

The pictures should be used as reference material, not as material to be copied. At one time the prevailing idea of English teaching was to assign a composition to be written and handed in on a certain date. The students rushed to the encyclopædia or reference books, copied a few paragraphs on some subject and received credit for the work. Now the value of English composition is conceived to be the help it affords individuals to express ideas clearly. In the same way the value of drawing is in providing the individual with a means by which his ideas may be clearly expressed.

MECHANICAL OR INFORMATIONAL DRAWING

Another type of drawing, besides pictorial drawing, is informational drawing. Pictorial drawing consists in showing three dimensions on two or in making a picture of an object. Informational drawing consists in a diagrammatical arrangement of line in order to give definite dimensional information. (Plate 25.)

Evidences of need on the part of the children are apparent when the children use diagrams to illustrate a relationship or when they make plans or maps to show proportions or distances. The child's use of this type of drawing is much the same as that used by the adult, the difference being mainly in the matter of detail. This type of drawing which refers to plans for making a piece of furniture or similar objects, is referred to as a working drawing. That which deals with construction of buildings, architectural drawings of which the average person is most familiar with the horizontal section view or floor plans. That referring to topographical information is called a map. The average person is quite familiar with floor plans and working drawings as well as maps.

Informational drawing is imaginative in that it could not be represented by a photograph. For instance, while a floor plan is quite clear, yet there is no way to actually see what is represented in a floor plan.

Mechanical drawing is much more difficult for children than pictorial drawing. Young children have no need for mechanical drawing since they work directly with material

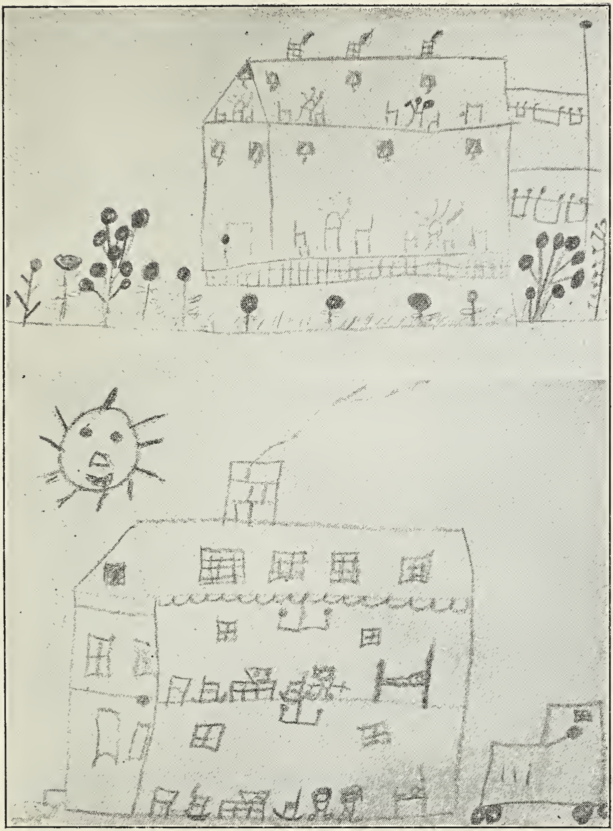


PLATE 25. Young children often combine pictorial and informational qualities in one drawing. Here there is the pictorial element in the exterior views of the houses. Also the informational element in the indication of the interior and furnishing.

and do very little planning. Older children have very definite needs which are quite evident when they plan to make stage decoration or stage scenery, models, sand-tables, school gardens, and other similar activities.

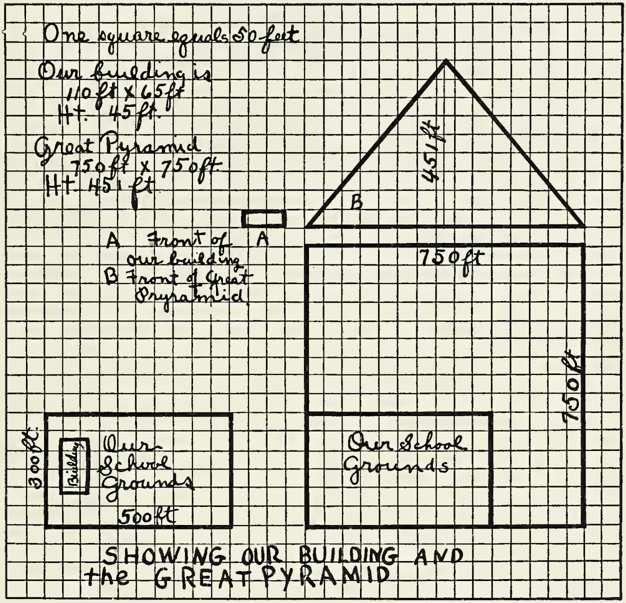


PLATE 26. The use of mechanical or informational drawing as a means to gaining better understanding of size. The base of the Great Pyramid is placed on the school grounds and is shown extending far beyond the school boundaries.

The first requirement of mechanical drawing is drawing to scale. This is no doubt best accomplished by the use of "squared" paper. Large squares are best for the third and fourth grades. One-half inch square is as small as should be used. The fifth and sixth grades could use one-quarter inch. Let one square be the unit of measurement and equal one foot or yard or one mile as the case demands and the plan or diagram or map may be made accordingly. (Plate 26, also Plate 54.)

While informational drawing may not be so fanciful in character as pictorial drawing yet it is just as dependent on imagination and deserves respect as a part of school drawing. It not only provides for economy of material in working out a finished plan before material is used but also provides for a freer use of the imagination in that many plans may be tried out diagrammatically until the desired one is evolved.

CHAPTER IV

DESIGN

Design is the arrangement of parts into a satisfying whole. In order to be completely satisfying the whole must afford both utilitarian and æsthetic satisfaction. An article or arrangement of articles must satisfy the intended purpose and also provide æsthetic satisfaction, to be pleasurable. In some articles the utilitarian quality is more apparent while in others the æsthetic quality is outstanding. A kitchen utensil is first of all satisfying in accordance with its usableness, while a picture affords pleasure through its æsthetic qualities. However, utility and beauty can never be entirely disassociated. The effective kitchen utensil usually reveals qualities of beauty in line, proportion or balance to the discerning eye; while the picture in being beautiful affords utilitarian satisfaction in that it fulfils its purpose which is in giving æsthetic satisfaction.

Every work of art reveals the application of the principles of design. However, the most ordinary objects of every day life afford the possibility of æsthetic satisfaction if chosen and arranged according to these same fundamental principles.

Children have need for the principles of design or art structure, in carrying on their school activities. The average adult has need for the same principles in countless activities of ordinary life. Everything in daily activities from the placing of a name on a greeting card to the arrangement of the furniture in a room is a problem of design. With this universal need for design in adult life revealed it has been customary for art courses for children to give adult problems as applications of principles of design. It is true that choosing rugs and wall-paper is a universal art problem among adults, but it is not necessarily a child's problem. It is necessary for us to see art problems in children's activities, and to give to the children simple fundamental art principles by means of which their art problems can be solved.

It is more important to develop in children the "art habit" of considering the "looks" in everything they make or arrange than to teach them the solution to a few art problems that they may meet as adults.

FUNDAMENTAL PRINCIPLES OF DESIGN

Fitness to Purpose.—Fitness to purpose refers to the quality of convenience or usableness in an object or in an arrangement of objects. To give satisfaction an object must adequately satisfy its purpose. This involves material, structure and environment, all three of which are interrelated. The purpose of the object determines the selection of the material and the structure. For example, let us consider the selection of a dress. The purpose of the dress, whether for business, sport or evening wear, will determine the selection of material and the pattern. However, the material also influences the pattern. An evening gown may be made of velvet or it may be made of georgette. But a material having been chosen the pattern of the dress is controlled by the possibilities and limitations of that material. Environment, also, influences the selection of the material and the plan. The dress may be adequate in material and pattern but it may violate the principle of fitness to purpose because it does not "fit" the wearer or its "surroundings."

Teaching the Principle of Fitness to Purpose.—The principle of fitness to purpose is quite easily grasped by children if discussed in terms of application that they can understand. Fitness to purpose in clothing can be appreciated by children. They recognize that various materials are suitable for different seasons, and that various kinds of clothes are appropriate for various occupations. Children's responses after the discussion show an excellent understanding of the principle. One boy gave the example of baseball gloves, stating that "the catcher's mit is thick and padded because he has to catch fast balls, while the pitcher's mit is thinner and more like a regular glove because the pitcher does not need such a thick glove." Another boy spoke of the difference between a football suit and a baseball suit because the "games are different." A girl explained that the children took off their leather-soled shoes and put on rubber-soled gym shoes when they went into the gymnasium so that they would not slip on the floor when they ran.

Applications for the principle of fitness to purpose occur throughout the entire day, in all types of activities such as: —choosing the material best suited to the purpose in making models for History or Geography illustration; arranging materials and tools for convenience in working; taking care of hats, coats and rubbers; or, determining types of conduct for various activities in the day,—conversation during the lunch period, quiet activities when children are "doing their arithmetic,"—moving about the room getting necessary materials during the work period.

As the basis for improvement children should learn to appraise their work by asking "Does it satisfy its purpose?" The first error to be corrected is that one which most obviously prevents the result from being satisfactory. For example a boy has made a wagon, the wheels do not turn on the axles and the front axle does not turn on the wagon.

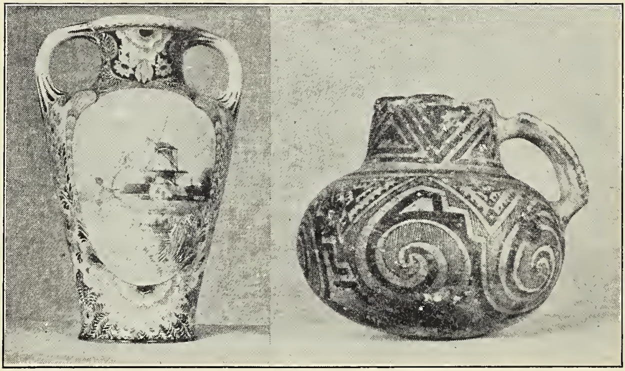
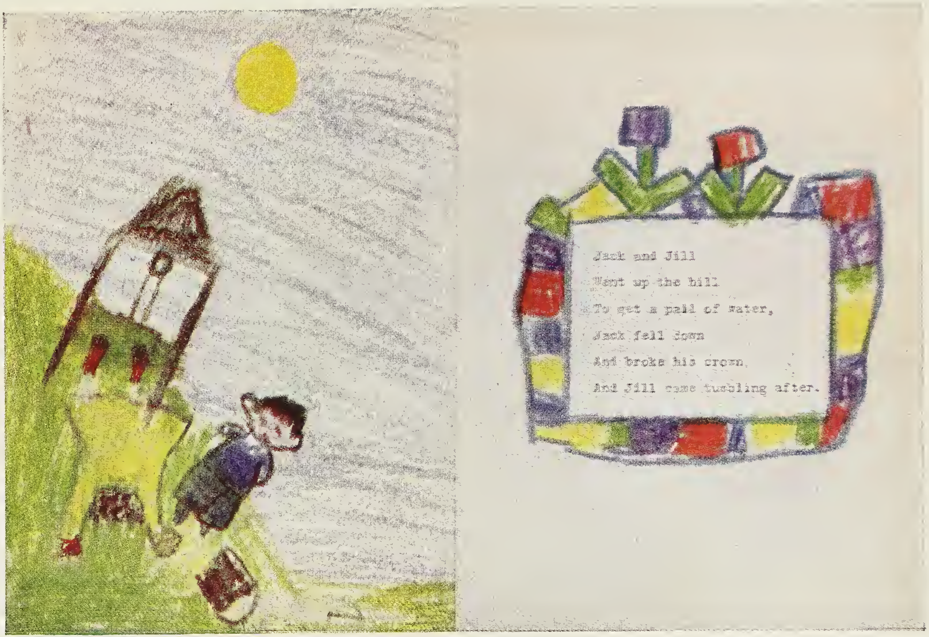


PLATE 27.

1. The realistic picture of a landscape gives an illusion of distance and has not been adapted to the purpose of a decoration for a vase.
2. The decoration has been adapted to fit the vase.

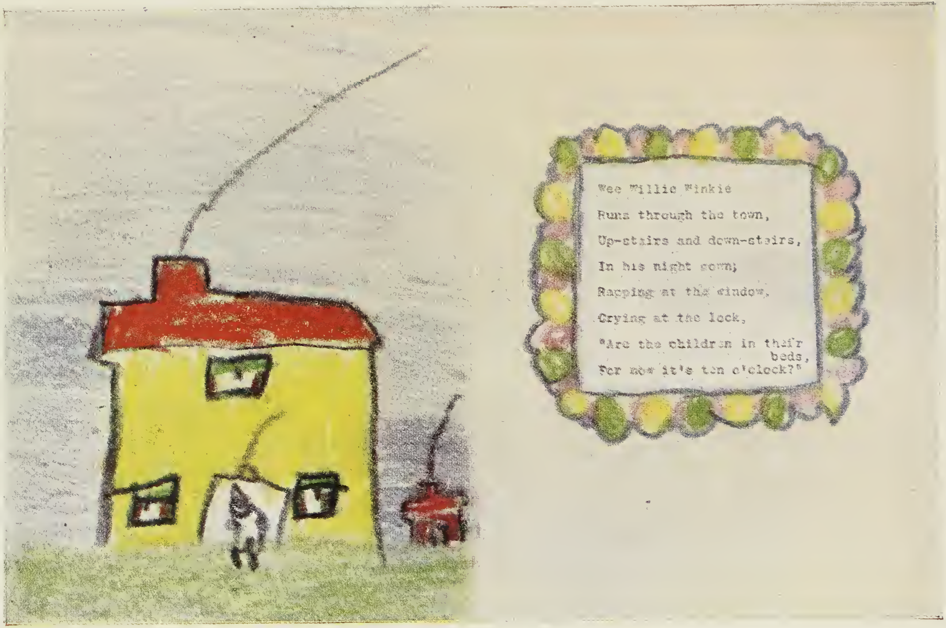
The most obvious error is that the wheels do not turn since the wagon does not satisfy its primary purpose, a means of transportation. Having improved the wheels the boy next discovers that if the front axle were fastened to the wagon with a bolt the axle would turn and steering the wagon would be much easier.

In the study of the development of the industries children can see that the desire to make the product more nearly ade-



Jack and Jill
Went up the hill
To get a pail of water,
Jack fell down
And broke his crown,
And Jill came tumbling after.

PLATE 28.



Wee Willie Winkie

Runs through the town,

Up-stairs and down-stairs,

In his night gown;

Rapping at the window,

Crying at the lock,

"Are the children in their beds,

For now it's ten o'clock?"

PLATE 29. Pages from a child's book.
Notice the excellent use of pictorial drawing and decorative design. The picture on the left illustrates the rhyme. The decoration on the right is a decorative border.

quate to satisfy its purpose or the attempt to meet a need hitherto neglected has been the incentive to invention.

Decoration and Fitness to Purpose.—Fitness to purpose is also involved in the decoration of an object. The plan of the decoration is often suggested by a nature motif or idea,—a flower, a tree, a landscape; by an animal or bird or by the human figure. In order to apply the principle of fitness to purpose to the decoration, the motif must be adapted to the object so that the decoration is a part of the object it decorates. The decoration must not interfere with the best use of the object, neither must it in any way disguise the object nor rob it of its fundamental characteristics. In decoration the object is the important thing. The decoration enriches the object. Much of our contemporary decoration of ordinary household objects shows a violation of this phase of fitness to purpose. We find *pictures* of flowers, birds, animals, fruits, the human figure, used as a decoration on objects. (Plate 27.) The plate which is decorated with realistic roses is a constant contradiction. On one hand it is a plate existing for the purpose of holding food, and on the other hand it serves as a canvas on which has been painted a picture of roses. The plate is excellent in its intended rôle, as is also the picture, but the combination is a hopeless incongruity.

Children should be taught to discriminate between representative drawing with its illusion of distance and decoration which is a breaking up of the otherwise uninteresting surfaces of an object into a beautiful arrangement in line, mass or color. (Plates 28 and 29.) A very discouraging observation in regard to the application of this principle is that young children generally decorate their objects with flat decorative patterns while older children show a marked tendency to use pictures for adornment. Primitive art shows many beautiful examples of adapting a motif from nature to its purpose of decorating an object, but an examination of present-day utensils shows a predominate tendency to the use of the pictorial for decoration. This prevalence of unsuitable decoration of the present day is of course responsible for the apparent degeneration in children's work in design. The older child having had more experience than the younger child unconsciously tends to imitate and the pictorial adornment unsuited to its purpose of decoration is the result.

Children can understand this principle through discussion and by seeing many examples. Unfortunately there are many examples of the violation of the principle. The teacher should frankly face this situation and not be floored when in the discussion a child produces a book with a picture on the cover for decoration or a textile with a picture of a rose for a pattern and contends that it must be all right because it is done. Instead the child should be led to see that there are various degrees of excellency in the art quality of different objects and that through the understanding of principles we may learn to select from many objects one that is beautiful.

RHYTHM

All principles of art structure have been discovered through investigation of feeling as to what gives æsthetic satisfaction. Rhythm is movement gained by orderly repetition. People have always found delight in rhythm. There is pleasure in regular repetition of sound. Primitive man responded to the rather monotonous repetition of the sound of the rattle and tom-tom. This regular repetition has developed into the more complicated rhythms of music. The mo-

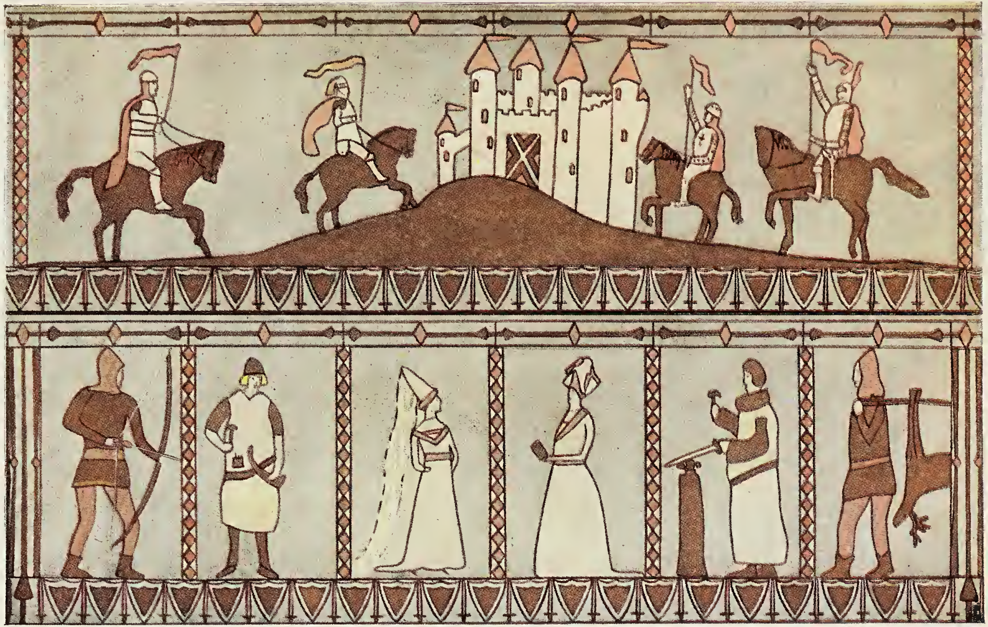


PLATE 30. The Castle. Panel made for room decoration as a result of interest in life in the Middle Ages.

notonous chants of the wandering minstrels show the enjoyment of the same sense of rhythm which has evolved into more complicated forms of repetition in poetry and "free verse."

Man has also found pleasure in visual rhythm,—that is in regular repetition of line, mass or color. That primitive man found pleasure in "visual" rhythm is quite apparent from his drawings of swiftly moving animals; and from his regularly repeated motifs decorating the utensils and implements of his daily life. Man continues to find pleasure in visual rhythm, as is obvious in his enjoyment of repetition of line, mass and color in nature, which he sees in the ocean, trees, hills, mountains, brooks and waterfalls; in buildings, statues, paintings, as also in the structure and decoration of articles of daily use.

The rhythmic repetition of a dominant line, mass or color in any arrangement results in the feeling of unity. If there is no orderly repetition, confusion results.

Teaching the Principle of Rhythm to Children.—Children enjoy the simple repetition of a unit in a border, if the border is used as a decoration. They also like the surface pattern which is the repetition of a unit in two directions. These units may be repeated by means of a stencil with crayons or paint, or by a block-print cut on linoleum, wood, or if used by the younger children the unit may be cut on a softer material, such as soft eraser, art gum, potato or carrot. In developing this type of repetition children should be shown borders and surface patterns and the system of repeat should be explained. Then they may make their own units and choose their methods of repeating the unit. (See Plate 30 and Plate 37.)

However, this form of rhythm is only a small part of the application of the principle in relation to children's needs.

Rhythm is expressed in other ways besides in borders and all over patterns. In discussing rhythm as orderly repetition, one child suggested that hair is rhythmical especially when it is curly,—another that the books in the bookcase showed rhythm when they were arranged in order; other children mentioned "wheel tracks in the snow"; "the wind blowing the trees and leaves all in one direction." (See Plate 31, also frontispiece.)

After the children have shown by their responses that they realize that there is pleasure in "seeing rhythm," the next step is to learn to apply the principle. That is, if we enjoy seeing rhythm then we must be sure that it is apparent in any object being made or in a group of objects being arranged.

The form of the object determines the dominant line. As for example in the *Madonna of the Chair* the picture is round and the lines and masses of the figures repeat the lines suggested by the circle. The shape of a page is rectangular; so the lines of the design and lettering should repeat the lines of the page. A name written on a card or on an English paper should read horizontally and repeat the line of the top of the page. Teachers should observe this and write comments and grades in "rhythm" and not expect children to observe principles of design which the teacher violates. (Plate 31.)

The poster shown on Plate 31 was made for a flower show. The shape of the poster was determined by the arched-panel space which the poster was to occupy. Notice the children's application of the principles of rhythm in the repetition of the architectural line of the arch and in the adaptation of the motif to the space.

Material arranged on the bulletin-board should never be fantastically arranged but always to "fit" by placing it straight with the frame. Much can be accomplished toward establishing the habit of order in the care of material, tools and clothes by speaking of the arrangement as a problem in Rhythm. Books arranged rhythmically in a bookcase because they look better seems to be a more appealing incentive and a more definite objective than endless requests for neatness.

BALANCE

Balance is equilibrium established by an equal division of weights. Every one is familiar with balance in the physical sense and has had experience in weighing objects in terms of pounds and ounces. Objects have "visual" weight as well as physical weight. Visual weight is measured in terms of attention or attraction. Visual balance consists in arrangement of objects so that there is an equal division of attractions; then there is a feeling of rest or repose. This feeling of rest or repose is essential in any arrangement or composition. Otherwise there is a consciousness of "lopsidedness," "danger of upsetting," or "feeling of unrest."

There are two kinds of balance, formal or apparent balance and informal or hidden balance. Formal balance is established by repeating identical objects on both sides of a centre. Informal balance consists in gaining equilibrium by proper distribution of unequal weights. Formal balance may be observed in the Castle panel, Plate 30; informal balance in *St. George and the Dragon,* Plate 57.

Teaching the Principle of Balance to Children.—Children are sensitive to balance and may profitably discuss applications of the principle that are apparent in the classroom. However, since it is a more tangible approach balance should be explained first in terms of weights. The two-pan scale and the steelyard afford excellent examples of formal and informal balance, but experience with the see-saw is shared by most children and may well serve as an illustration of the principle.

When two children of equal weight see-saw each child is the same distance from the centre. This is the principle of formal balance, *i. e.*, equal weights balance when placed at equal distances from the centre. However, children who play together are often of unequal weights. When asked how to see-saw when one child is heavier than the other, the response is immediate for the children have learned by experience that the heavier child must slide toward the centre and the lighter child must slide toward the end. In fact they have learned for all practical purposes that weight × distance = weight × distance. This balancing of unequal weights shows the principle of informal balance. A heavy weight near the centre may be balanced by a lighter weight on the opposite side and farther from the centre.

Having discussed the principle in terms of weights the next step is to transfer the principle into terms of visual balance. In this discussion it is first necessary to establish a clear understanding as to the meaning of "visual weights." The "visual weight" of an object is the amount of attraction to the eye. Attraction here means "pulling power." Every object has a certain amount of "pulling power," and every object attracts our attention in the degree to which it possesses this power. This should be demonstrated for the children. Use a piece of bright color, a poster, a piece of textile that is bright in color or has strong contrasts in value. Have the children close their eyes and place the object in the front of the room, then ask the children to tell the first thing they see. This can also be demonstrated by having children look at a group of objects arranged on a tray, or look at a group of pictures on a bulletin-board and then write down what they remember. The answers will show that there are certain objects that they notice and certain objects that pass unnoticed. This is due to the power of the object to attract attention. The heaviest object visually is the one that attracts the most attention. It must be made quite clear that this heaviness has nothing to do with weight in pounds. For instance a poster may be visually as heavy as a piano in that it may attract attention as easily. From the examples illustrating the fact that we look at some objects more reaidly than others, children can discover certain qualities that attract attention or give visual weight:

(1) Color: Bright color attracts attention more readily than grayed color; oranges, reds and yellows are heavier in attraction than greens, blues and violets. (2) Strong contrast in value: For a discussion of color and value see page 94. (3) Size: All other qualities being equal the larger of the two objects is the stronger attraction. (4) Pattern: A decorated object attracts more attention than a plain object; and variety in the shape of an object will make it more conspicuous than a similar object of simple contour.

When the children understand this quality of attractiveness or visual weight in objects they are ready to apply the principle of balance to visual arrangements. A heavy attraction near the centre may be balanced by a lighter attraction on the opposite side and farther from the centre. A large object near the centre may be balanced by a small object if it is placed farther from the centre. A bright color must be placed near the centre, and a grayed color farther away from the centre.

In their first attempts at balance children usually observe formal balance. In page arrangements and posters they aim to have approximately the same thing on both sides of the centre. They may later learn to balance unequal attractions by applying the principle of informal balance. If in the arrangement there is one part decidedly more attractive than any other part it should be placed in the centre; not because a more formal arrangement is better, but because children will understand and enjoy simple balance when complicated balance would not be appreciated. As in the development of other art principles, balance is appreciated in a progression from the simple or obvious to the complex. It is better for their æsthetic development that children apply and appreciate balance at their own levels even though the results look stiff to one more experienced, than it is to hasten them into the use of freer and less formal arrangements which they do not understand.

Applications of the Principle in Classroom Work.—The applications of the principles of balance should extend beyond the activities of the art period. The children in one class after a discussion of balance suggested that they rearrange the heading for their Arithmetic papers. In the heading they provided a place for the grade, so that the teacher's addition to the paper would not make it out of balance.

The arrangement of material on the pages of a booklet, the plan of the book cover, the making of a poster, the arrangement of bulletin-boards, the placing of flowers in a vase, and the placing of the vase of flowers in a room, the arrangement of an exhibition of work of any kind, the writing of a letter, the signing of a name on a card are illustrations of every-day school needs for balance.

A fifth grade class gave a play. The conversation of the children revealed an excellent working knowledge of the principles of balance. The stage furniture was shifted in an attempt to improve the balance. One girl remarked, "If the Queen is going to wear a bright red dress don't you think she should stay near the centre of the stage?"

When art principles are carefully explained for them, children show a surprising appreciation of the principles by applying them in untraditional ways and observing the principles in unexpected places. This is especially true of the principle of balance.

EMPHASIS AND SUBORDINATION

Emphasis and subordination are closely related because one supports the other. Emphasis refers to accenting certain parts of a composition. Subordination is subduing or making certain features of an arrangement inconspicuous. In subordinating certain parts other parts are correspondingly accented. The whole is always more important than any of its parts; however, some parts are more important than other parts. In a plant the root, stem, leaves and blossom are parts of and subordinate to the whole. Yet, on account of brightness in color and variety in shape the blossom in appearance is more emphatic than the root, stem or leaves. Subordination and emphasis must be observed in order to obtain unity. Otherwise each part is shouting for attention. When there are no centres of interest confusion results.

Teaching the Principle of Subordination and Emphasis to Children.—The first step in teaching unity to children is that the whole is more important than any of its parts. This can best be done by illustration. The house consists of many parts,—roof, doors, windows, foundation, any one of which ought to attract less attention than the house as a whole. The individual members of a band play various instruments, but each contributes to the whole. The football team is made up of individual players but if it is a successful team each member must contribute to the whole, that is the team, which is more important than any of the players.

When the children understand subordination of parts to emphasize the whole, the next consideration is the degree of importance of the various parts. The purpose decides the degree of importance. The important parts should receive more emphasis than the unimportant. The door of a house is more important than a window because it is the means of entrance. In looking at houses children can see that the door is usually a prominent feature in the house. They can also see that some things in a room are more apparent than other things; that as we look at a picture certain things "catch the eye" and others remain comparatively unnoticed. This again is the quality of attraction or "pulling power" of objects discussed on page 79. However, in balance we are concerned with attraction as weights which we must distribute in such a way as to give the feeling of repose. Here we are concerned with the quality of attraction in order that every part of the composition may have the amount of attention it deserves.

Application of the Principle by the Children.—The first essential in applying the principle of emphasis and subordination is to decide what is important and what is unimportant. This may seem an unnecessary step, but unless it is included as a definite step children will often proceed toward very ridiculous accents. The degree of importance of an object is determined by the purpose or use. Thus a picture is more important than the mount because the mount serves only as a background for the picture. Importance must not be confused with necessity. A waste-basket is very necessary in a room but it is not an article that should be given great importance. Overshoes are necessary but they should not be made a conspicious part of the costume.

Having determined on the important and unimportant features, the next problem is to emphasize the important and to subordinate the unimportant. There are many ways of gaining emphasis. A few of the most important will be sufficient for children's use. To gain emphasis is to attract attention; to subordinate is to make inconspicuous:

(1) Size—Attention may be attracted by making the object large and an object may be made inconspicuous by making it small.

(2) Color—Objects may be emphasized by making them intense in color (see page 95) or subordinated by using grayed color.

(3) Value—Emphasis may be gained by combining values that are far apart (see page 95); subordination may be gained by using values that are close together.

(4) Variety—A change in direction of line or in the shape or quality of mass will attract attention. Repetition of a dominant line or mass will remain inconspicuous.

(5) Detail—The eye passes quickly over a plain surface and pauses at a variegated surface.

(6) Placing—An object may be emphasized by conspicuous placing and by having movement that will lead the eye to the object.

Sometimes the size cannot be changed. Then other means of gaining emphasis or subordination may be used. Variety is often used as a means of attracting attention. This is quite satisfying if the principles of balance and rhythm are not violated.

Children find many needs for the knowledge of how to emphasize and subordinate. They emphasize the important character in a play with a costume of bright color and by having the character keep near the centre of the stage. When they wanted the queen's throne to be more important than anything else on the stage the children in a sixth grade added decoration to the throne in order to make it more interesting than the other furniture on the stage. But they used closely related values so that the throne would not distract attention from the queen.

In making posters children subordinate the background by using dull color and emphasize the important things by making them large, bright in color and with carefully worked out detail.

Children also find that they can emphasize the important parts of their pictures by careful drawing of detail and subordinate unimportant parts by eliminating details.

Through practice children become discerning in discriminating between the important and unimportant and skilled in placing the accents properly. When they can do this they have accomplished much toward satisfactory arrangement. (Plate 32.)

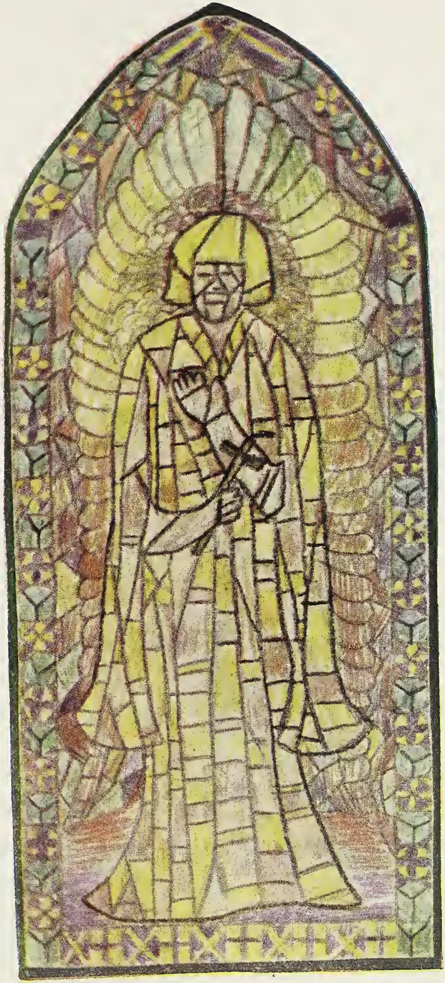


PLATE 32. Design for a window to be used in a play. The figure is emphasized through size.

PROPORTION

Proportion refers to pleasing spacing. Every division of a line or mass may result in beautiful space relationships. Appreciation of beautiful spacing is a matter of development and if we begin with simple and obvious principles we can help children to appreciate good spacing when they see it, and to observe good spacing in their work.

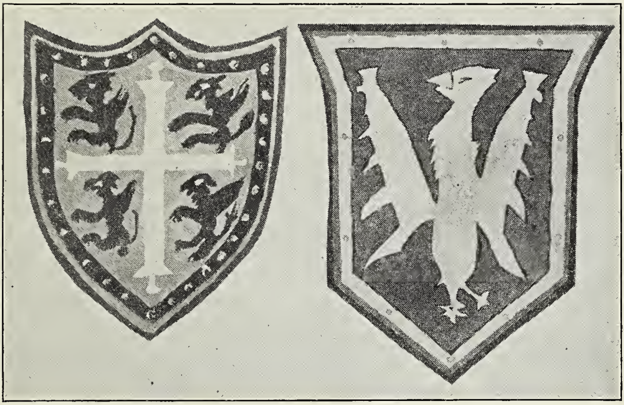


PLATE 33. Design for shields for use in a pageant. Notice variety in space divisions.

(1) The first principle of spacing to learn is that the apparent centre is always above the actual centre. If a vertical line is divided in the centre the division will seem to be below the centre. Then, in dividing any vertical space into two parts the dividing line should always be above the centre. The cross bars of letters such as E, F, H or B should be placed above the centre. The bottom margin should always

be the widest. This applies to a bulletin-board as well as a page.

(2) Unless there is some reason for having it, avoid equal space divisions. (Plate 33.) Equal divisions are monotonous. The sky-line in a picture should be either above or below the centre of the picture; a square book or square poster should be avoided since the sides are equal. In a series of space divisions there should be relationship in the parts but equal repetitions are monotonous. The Greek ratio of 2 to 3, or as others state it, 5 to 8, is helpful to adults in getting interesting spacing, but is too complicated to be of help to children.

Criticism about spacing should be very definite. An adult may work profitably for a long time over a problem in spacing, but a child is not so discriminating and only becomes confused if much time is spent on space relationships. It is better to establish a few definite rules from principles of spacing that the child can appreciate and apply in all of his work than to puzzle and discourage him with refinements of spacing that are beyond him.

Making a Design.—Besides applying the principles of art structure to the arrangement of objects, children wish to make things and decorate them. Adults may do much of the expressing of themselves through the selection of articles but children fortunately know the joy of actually making things! In watching children make things we can observe the human desire to decorate. This desire to add enrichment should be the beginning of design. Formerly it was thought best to teach the principles of design through a series of abstract problems, such as, "Make a design for a square 4″ × 4″"; or by a problem in space filling, "Take a rectangle and break it up into interesting spaces." These are excellent problems for the training of the professional designer, but they are without life for children.

The first step in making a design then is for the children to have a genuine interest in making a decoration. The plan for the article itself is spoken of usually as the structural design and the enrichment as the decorative design.

The next step is to decide on the space to be decorated, with due consideration to fitness to purpose, rhythm, balance, emphasis and subordination.

The preliminary spacing should be studied and improved before adding details. Then plan the design itself to fit the space. Children are very fond of symbolism, and like primitive man get more pleasure out of a motif stimulated by associations than by filling the space with an abstract design. In using the motif they must understand that the important thing is the object being decorated and not the "picture" of the motif. Therefore the motif must be changed until it fits the space and is purely a decoration and in no way a picture. As in planning the spacing so in the details of the design the principles of art structure must be observed.

Sometimes the design is a single unit, sometimes it is a unit repeated in a border or in a surface pattern. In any case it must be a part of the object it decorates.

Tests for Growth.—Special tests in principles of design seem rather unnecessary because all of the work of the children reveals their stages in progress. The signing of a name in one corner of a paper and on a diagonal line reveals a lack of knowledge of balance and rhythm as clearly as a special test would reveal it. However, special tests may be given. One form of test for knowledge of principles of design is to ask the children to select one from a group of objects and tell why, on the basis of the principles, it is good. Another is to rate objects for observation of fitness to purpose, rhythm, etc. The making of a plan for a page also reveals grasp of principle. The discriminating teacher will be able to judge the progress of the children in many ways such as the written page, arrangement of books in the desk or bookcase, flowers in a vase and these natural activities should be used for observing æsthetic growth in the work of children in so far as possible for two reasons:—(1) For young children design as taught by principle is a more difficult intellectual process than drawing. (2) There is danger that the tests may give a feeling of unrelatedness between the regular school work and principles of design.

The study of design, then, should do more for the child than teach him to make abstract borders or decorations for rectangles. It should give him an understanding of the fundamental principles of art structure which will make it possible for him to establish a satisfactory æsthetic quality in everything he does and find increasing satisfaction in seeing beauty in things about him.

CHAPTER V

COLOR

The child in the elementary grades is interested in color from the natural human delight in color itself. He desires to surround himself with color, to enrich his activities through its use. His color needs are such knowledges and skills in the use of color as will enable him to produce results that satisfy his own desire for color. This desire had its beginning when he was first able to distinguish one hue from another and to sense delight in an otherwise gray world. Its satisfaction should lead to a growing ability to select and arrange color, to meet the demands of a correspondingly increasing appreciation.

COLOR NEEDS OF ELEMENTARY CHILD

The small child is interested in using all colors in their greatest intensity. He may choose red, because it is his favorite color, to paint his trees rather than green even though it is not the color of trees. As the child reaches the elementary grades he begins to look for the real color of the objects that he paints and desires to paint a tree green and the sky blue. Later he discriminates between the green of a near-by tree and the green of a distant tree, the green of a tree in sunlight and that in shadow. He notices that while the sky is blue there are many different blues. He needs to know how to use his paints, crayon or colored paper in order to obtain the desired colors. This desire to match color perhaps gives the first need for learning to mix color. It is obviously a mistake to attempt to teach a child to mix color before his color sense is sufficiently developed for him to see fine color differences.

The theory of giving a small child red, green and yellow and having him mix all other color, is psychologically unsound. His interest is at first in all colors at their greatest brightness. Experience with the standard hues develops his ability to see variety within each hue. Not until he recognizes these differences is he ready for knowledge of the results of mixing pigments. This theory probably resulted in an overestimation of the importance of the primary pigment colors with little or no consideration of the psychology of fundamental color sensations which gives green as much importance as blue or yellow.

Besides a need for being able to procure certain colors, the elementary child wants to know—what tie he should wear with a blue shirt; what color he should use for letters on his booklet; what vase he should choose for the flowers he has brought; how to make the stage seem cold when he is giving the Eskimo scene and how to make it look hot in the Arabian scene.

ESSENTIAL KNOWLEDGE ABOUT COLOR, HUE, VALUE AND INTENSITY

The color problems then show a need for knowledge of color mixing; of warm and cold color; of penetrating and retiring color and of color harmony. The solution of these color problems necessitates the understanding of three color qualities,—hue, value and intensity. *Hue* is that quality which names a color as red, blue or violet. Hue refers to the kind of light. *Value* refers to the amount of lightness or darkness of a color as light blue or dark blue. Colors that occur lighter than the standard are called tints and those darker, shades. A very pale yellow is a tint of yellow, while a blue darker than pure blue is a shade of blue. *Intensity* refers to the amount of brightness or dullness of a color. Bright red, dull green, gray blue refer to the intensity of a color. Mr. Munsell * uses the word "chroma" to designate intensity.

THE TEACHING OF THE COLOR QUALITIES

Hue.—Of the color qualities children are first sensitive to differences in hue. Very early in life they are able to recognize blue, red and green as "colors." Experiences with color that lead to hue recognition are best to promote the development of the color sense in its earliest stages. Children have seen rainbows and have delighted in their many beautiful colors. A prism in the sunshine or the bevelled edge of a mirror will reflect a more lasting "rainbow" in which the children may see the colors. They will name as many colors as they know for each color merges into its adjacent color gradually and in so doing produces an indefinite number of intermediate colors.

For convenience, it is necessary to select "landmarks" in the spectrum that may serve as guides for typical colors. Just what colors should be selected as typical has been a matter of discussion. Red, blue and yellow, which have been chosen as the typical colors since they are primary pigments from which all other colors can be made, do not seem sufficient when the psychologist places the primary color sensations as blue, yellow, red and green.† The use of Munsell's

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*A. H. Munsell. *A Color Notation.*

† E. B. Titchener. *An Outline of Psychology.* Macmillan.

more accurately balanced scale of five typical colors, excluding orange but including violet, complicates the system of complementary colors more than their needs demand or abilities of elementary grade children permit. The use of six typical colors, red, orange, yellow, green, blue and violet, seems to be best for elementary color work. Even though the spectrum is arranged in a line with red at one end and violet at the opposite end there is as much similarity between red and violet as there is between violet and blue, so that in order to see color relationships the hues should be arranged so that the ends of the spectrum join, preferably arranged in a circle. (Plate 34.)

A large color scale made up accurately from reliable colors should always be available for color use. A convenient size is twenty inches in diameter. Take the radius—10 inches, begin at the top and mark off the circle into six equal parts. Cut circles of colored paper, four inches in diameter, place the yellow at the top because it is the lightest; place green on the right-hand side; blue next, etc. This places the cool colors (those having a predominance of blue) on the right and the warm colors (those having a predominance of red) on the left.

Little children classify all color in color families. All reds are red, blues are blue, etc. Later children discover that these six colors do not satisfy their color needs. The desired blue is not the blue of the color chart. To provide for this we must add intermediate colors.*

Make the intermediate colors three inches in diameter in order that the typical colors will still have some prominence in the color chart. Mount the intermediate colors between

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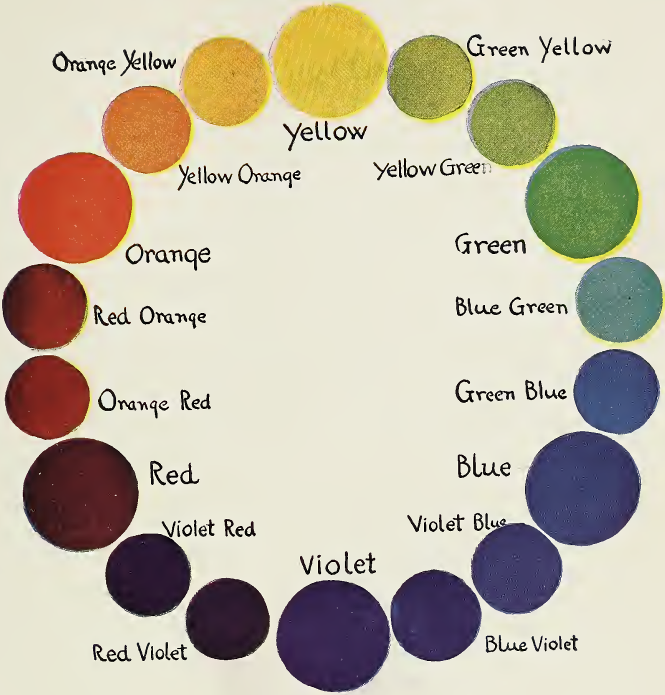
*Milton Bradley sells a satisfactory assortment of colored papers.



HUE SCALE

PLATE 34.

the principal colors, yellow, green yellow and yellow green; green, blue green and green blue; blue, violet blue and blue violet, etc. (Plate 34.) It is much better for work with children to include two intermediate colors because they can readily see that a little of the adjacent color added to a color modifies it. For instance, green added to blue produces green blue, while blue added to green produces blue green. It is very difficult and also unnecessary to try to locate a mid-point between each typical color since our main object in including the intermediate colors is to help the child to "find his way" in hue when the desired color does not match one of the six typical colors. Therefore it is better to include two intermediate colors making an eighteen-color chart than one intermediate color for a twelve-color chart as has usually been used.

Dealings with color usually involve hue, value and intensity; however, an attempt to teach all three together will likely result in confusion. A lesson in hue should be preceded by some experience that has stimulated an interest in finding out about color; a simple lesson should follow in which the children are conscious of a worth-while gain in knowledge, that can be put to immediate use. At this point the question is likely to arise, should this lesson in hue consist of making color scales? Color scales are of importance only as they lead from a color need to its solution. Color scales in themselves tend to close color experience into a realm apart from actual color needs.

Interest in how to make different colors arises often from a child's attempt to match colors, as is apparent in an attempt to get the particular green of a pine tree or the green of pasture-land.

Perhaps the most direct way to see the results of mixing colors is by use of water-color. By mixing the primary pigment colors, red and yellow, red and blue, and yellow and blue, the children discover resulting orange, violet and green. By adding adjacent colors they discover resulting modifications. Colors mixed by the children should be named by them by comparison with the color chart. Intermediate colors may also be made with crayons by combining adjacent colors. (See Crayon Drawing, Plate 21.) Children also learn much about color mixture for different hues by the use of colored tissue-paper, which may be used in making transparencies, placing one piece upon another in order to get the right color.

Value.—The next color quality that children recognize is value. Early "value" needs are evident in an unsuccessful attempt to show one color against another. The green tree is perhaps not easily distinguishable from the blue sky. When their attention is called to it, children can see that we see objects as a result of their differences in value. A value scale of grays, from white to black, with a strip in between called middle value and one between middle and white called light and one between middle and black called dark will help the children to recognize value differences. (Plate 35.) This will lead to recognition of differences in value in regard to color. In a lesson on value children should first be given the term value and learn to discriminate between its art meaning and its commercial meaning. With the value scale at hand they can designate the value of the blackboard as dark, the wall as light, or the floor as middle value. As a help to seeing the value quality in colors, charts may be made showing a color with tints and shades.*

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*Milton Bradley and Abbott & Company have colored papers showing two tints and two shades of each color.

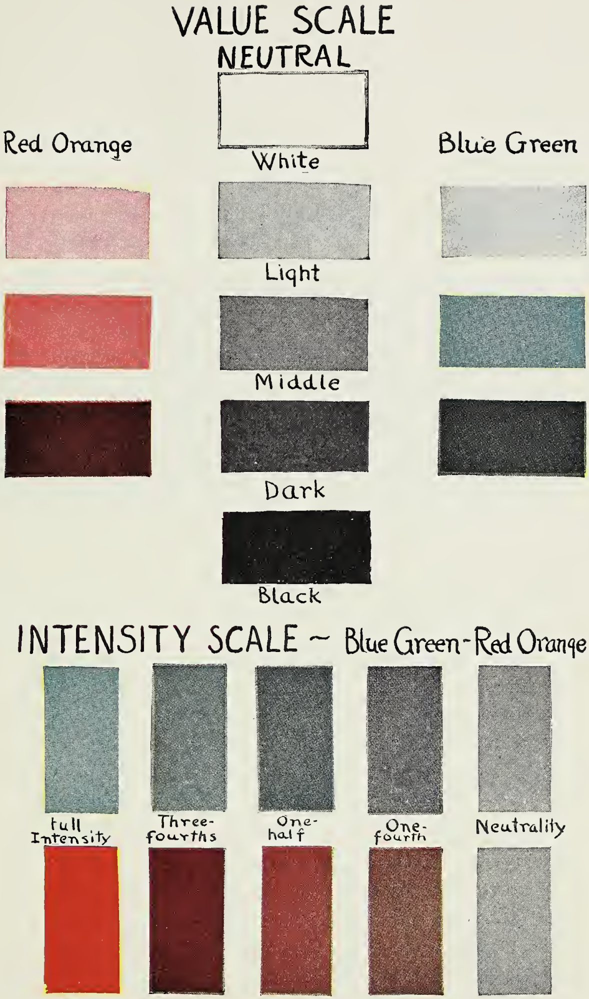
VALUE SCALE
NEUTRAL
Red Orange
Blue Green
White
Light
Middle
Dark
Black
INTENSITY SCALE ~ Blue Green - Red Orange
Full Intensity
Three-fourths
One-half
One-fourth
Neutrality

PLATE 35.

For convenience in use for color combinations, so that one color can be placed against another, these charts should be made by mounting the colors even with the right-hand edge of the card, leaving a space on the left-hand edge for handling.

For practice in using the term, children may pick all of one color in a room and arrange them from light to dark. For instance, all children wearing blue may stand in front of the room; one child may arrange the blues in order from light to dark; the result is subject to the criticism and suggestions of the class.

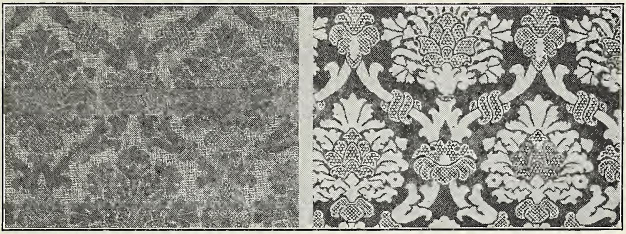
Closely related values. Strong contrast in values.

Plate 36.

Art mediums may be manipulated to give different values, *i.e.*, water color may be made lighter by adding water, darker by using darker colors; crayon by stroke and addition of darker and lighter colors; pencil by heavier strokes closer together and lighter strokes farther apart to give the desired light and dark masses. (See pages 56 and 57.)

In drawing, the term value must be understood in order to show clearly one mass against another. (See page 56.) In color harmony value is as important a factor as hue.

Closely related values show slight contrast; values farther removed show strong contrast. (See Plate 36.)

Intensity.—Needs for knowledge about color intensity are evident in attempts to match color, to show distant objects and to discriminate between the essential and the less important in relation to color attraction.

Children can readily understand intensity if discussed in terms of sound. Very bright colors or pure colors are like shrill, loud sounds. Less intense or grayed colors are like quieter, softer sounds. Scales of intensity may be arranged from pure color to neutrality as, pure blue, three-fourths intensity, one-half intensity, one-fourth intensity, gray. (Plate 35.)

(The Munsell color system affords the only accurate color-intensity scales. However they are quite expensive and more technical than the needs of elementary children demand. From both Milton Bradley and Abbott assortments of colored papers intensity scales of several steps can be made by means of which the children can see the difference in pure color and grayed color.)

By using water-color, children can discover that colors are grayed or neutralized by adding the color directly opposite on the color chart. Blue is grayed by adding orange, red by adding green, yellow by adding violet. In more accurate color work we find that the complement of red is blue green; of yellow, violet blue; green, red violet; blue, yellow red; and violet, yellow green. However, the need of the average individual is to know how to gray color and the more simple scheme of opposites suffices for this.

Children learn that very bright color is best used in smaller amounts, while large areas demand grayer color.

While the introduction of the terms, hue, value and intensity should be made one at a time, on account of the amount of new material which a child is able to grasp, they should be used together. Every color problem necessitates the intelligent consideration of hue, value and intensity. They are factors in drawing and in design. Children soon learn to think of all three as is evident in a class discussion of drawings. For example, the sky is too dark (value), the distant trees are good because they are grayed (intensity) or the shady side of the tree needs more blue (hue).

COLOR HARMONY

All three factors are equally essential in selecting and combining color. Harmony means having something in common. The simplest harmony is the monochromatic or harmony of one color. Since in this harmony there is sameness in hue, variety may be gained by stronger value contrasts and differences in intensity. Children make booklets using a dark cover and letters of a light value of the same color.

The analogous harmony is a harmony of closely related colors, colors near each other on the color chart—blue, blue green and green blue, or orange, orange yellow and yellow. The colors have a hue in common (blue in the first, yellow in second). Variety may be gained in varying the value and intensity, as a poster with a very dark neutral blue background may have letters of light blue and accents of bright blue green.

The complementary color harmony is a harmony of colors opposite on the color chart. Each may have "something in common" by the addition of the other; for instance blue and orange may be pleasing when combined if some orange is added to the blue and some blue to the orange. In doing this, both colors are neutralized or grayed. Thus both complementary colors used together in relatively equal amounts should be neutralized. However, small amounts of pure color may be used with large areas of neutralized color. Adjacent colors may be substituted in complementary harmonies, as, orange may be used with green blue and violet blue. Since there is much difference in hue, there should be more similarity in value in the complementary harmony. (Plate 37.)

The use of simple color harmonies is helpful in developing color appreciation. Later color will be combined without thought of any particular harmony but with recognition of purpose, environment and something in common, without monotony.

If we look at a color intently for thirty or forty seconds and then look away, we will see what is called an after-image. At first, it is the color reflected, the positive after-image and then the complement appears, which is called the negative after-image. This perhaps helps us to understand the desire for completion of the color cycle. An individual soon outgrows the satisfaction he first found in a monochromatic harmony. He desires to maintain the balance by "relieving" the harmony by a "touch" of the opposite color. For instance, he finds satisfaction in a group of blues by adding a bit of orange.

As in modern tendencies in music and poetry, the more formal rules of color harmony are being discarded and unusual and startling products result. The teaching of color harmony is being discouraged in some instances as being limiting and we are cited to individual artists who have their

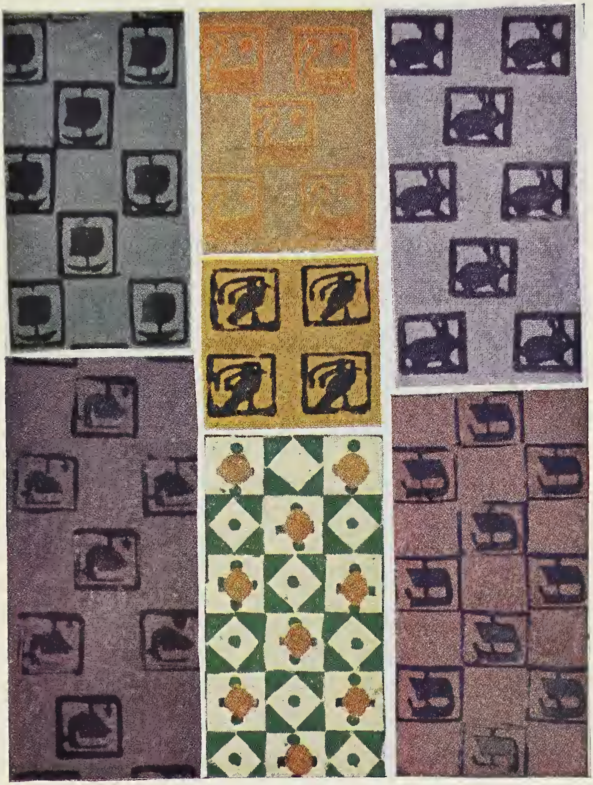

PLATE 37. Surface patterns made with wood blocks. Selected to show examples of color harmonies.

Top row and lower left: Monochromatic (different values or intensities of one hue).
Centre and lower right: Complementary (opposite hues).
Lower centre: Analogous (closely related hues).

own typical color combinations, unusual but yet beautiful. However, it is doubtful whether the "feel" of color can be reached without the knowledge and certainly the average individual must arrive at appreciation and satisfaction in the use of color through knowledge of color qualities. There is an evolution in appreciation and enjoyment of colors and color combinations just as there is an evolution in appreciation of music or poetry.

CHAPTER VI

LETTERING

Lettering* is of universal interest. Beautiful lettering necessitates good letter forms and good spacing of the letters into words. Since it is a problem in spacing, lettering is a design problem. Great emphasis is placed on penmanship in public schools. The script letter is not sufficient. There are other needs which script writing does not appropriately satisfy.

Children in the elementary grades show a need for two types of lettering: one, for a simple small alphabet that can be used for labelling plates, maps or plans where a script alphabet is too informal: two, for a simple large alphabet that can be used on posters or any material which must be read at a distance.

There are many types of alphabets but all types are adaptations of Old Roman lettering which continues to be considered the most beautiful of letters. Other alphabets have been adapted from the Old Roman. A glance at Plate 38 will at once remind one that the Old Roman letter is composed of light lines and heavy lines. Old Roman lettering is very difficult, too difficult for elementary children. Perhaps you will disagree with this, saying that Elementary children do as well with Old Roman lettering as they do with drawing.

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*The words, lettering and printing, should not be confused. "Letter (verb) to inscribe letters upon. Print (verb) to impress (type-letters or pictures, etc.) on paper, cloth, etc.; make copies of by a printing-press."—*Standard Dictionary.* (Funk and Wagnalls.)

However, children are very familiar with letter forms and consequently demand a more finished product in lettering than would content them in drawing. For this reason they should be provided with alphabets that are within their abilities.

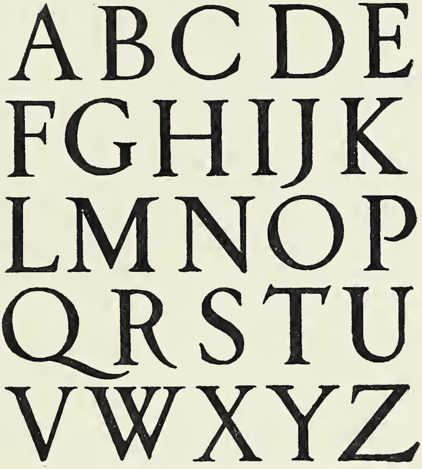

Plate 38. Old Roman alphabet.

The alphabet for labelling should include both upper case or capital letters, and lower case or small letters. It must be readily adaptable to different sizes and spacings. The letter forms must be simple and easy to memorize. For the capital letters the best for children's use have proven to be single-stroke letters based on Old Roman form. (See Plate 39.) Notice that the letters naturally fall into families: the I family composed of straight lines—I, E, F, H, L, T; the A family composed mainly of slant lines—A, K, M, N, V, W, X, Y, Z; the O family based on straight lines combined with curves—B, P, R, J, S, U, D, G, Q, C.

Also notice that the divisions are always above the centre, in E, F, H, K, X, B, P, R, S.

The lower case letters, best for children's use, are based on the circle and vertical line.* (See Plate 39.)

Children's Need for Help in Lettering.—Needs for help in lettering can be recognized when children try to letter names or titles instead of writing them with script. An example of good lettering placed on the bulletin-board with a model of the alphabet will stimulate interest. The separate letter forms must be learned just as children learn to write the script alphabet. Good models must be available, either in books, on separate sheets or on large charts hung on the wall. As soon as they have learned the letter forms the children should letter something. Too much practice and no application is uninteresting. As soon as they have done a piece of work, that work can be used as a basis for further improvement.

Improvement.—After the general letter form has been learned attention should be given to the uniformity of letters in words and sentences. As a basis for improvement, work for (1) Straight lines on the vertical strokes (avoid slant lines which are not uniform throughout, and curved lines b, d, h). (2) Well rounded curves. (3) Uniformity in size. Much help may be gained by using guide lines. Be sure in using guide lines that the letters touch the lines.

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*This type of lettering and its teaching are well explained in *Manuscript Writing*, Marjorie Wise (Charles Scribner's Sons).

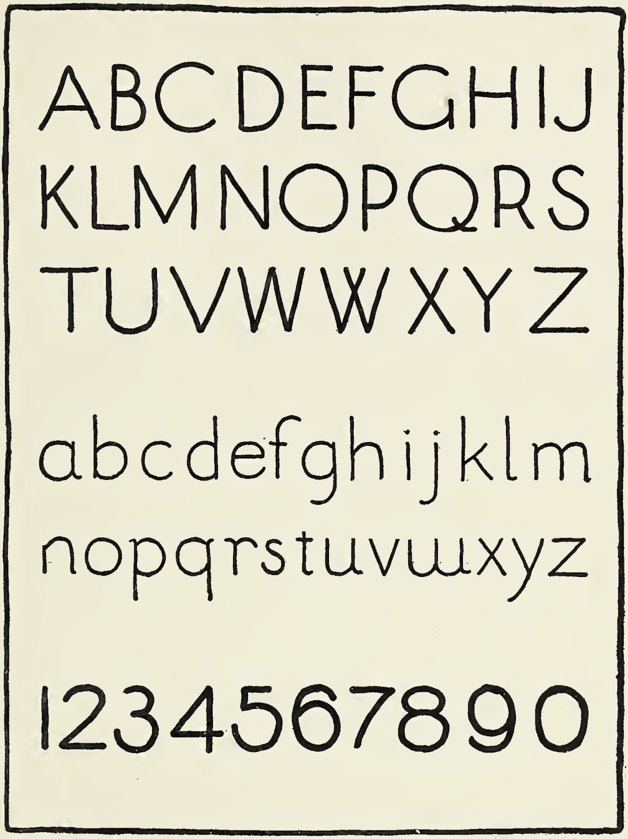

Plate 39. Single stroke alphabet.

Spacing.—The other essential to good lettering besides good letter forms is good spacing. The letters should be kept close together in words, and the words well separated. This gives the word "picture" clearly and is a great aid to legibility. Children are likely to leave too much space between the letters, and not enough space between words.

POSTER LETTERS

The other type of alphabet needed by children is the poster letter. Here again there is a demand for a high standard of technique since the poster necessarily must stand alone before its audience on its own merits and clearly announce what it has to say. For small poster lettering, the alphabet shown in Plate 39 may be used with a wide pen or large crayon. However, the spacing of letters necessitates very many shiftings and involves a problem too difficult for the average elementary child.

Another plan is to give the children an alphabet on squared paper. Each letter is a certain number of squares high and a certain number wide. The children can then easily count out the letter and plan a word. The difficulty of this method is that the letters are not adjustable. If the letters are six squares high and four squares wide a child cannot readily change that proportion to letters ten squares high, if he happens to need letters of that size.

Alphabet Cut from Paper.—A method that seems to solve the problem for better form and better spacing is cutting out the letters from paper. Take a number of rectangles all the same size and from these rectangles cut out letters and the letters will have uniformity of height and width even if the form is not excellent.

After the child has decided on the size of the space that the word is to fill (see Poster Planning, page 132) he next cuts a rectangle the exact size of the space. Then he divides the rectangle into the number of smaller equal rectangles that there are letters in the word.

Have a large chart of letters on the wall so that the children can have good models before them. Be sure the letters are large enough to be seen from all parts of the room. Ask the children to try to get all the stems the same width. The children in the lower Elementary grades are quite satisfied with these results and, since the letters are cut from rectangles of the same size, the letters will be the same height and the same width.

Later the children will be dissatisfied with these and will desire more accurate letters.

To draw letters and have them satisfactorily spaced requires more skill than the elementary grade child commands. Painting or filling in the drawn letter constitutes another hazard since one wrong move may spoil the whole piece of lettering. Also even though the child desires accuracy his interest span is too short to carry him through the long process of drawing the letters, and spacing them properly.

Accurate Cut-Letter.—A very satisfactory solution to this problem is the cut-out alphabet* shown in Plates 40–46. It is a refinement of the method of cutting out letters from rectangles.

A unit of measurement is used for all of the stems of the letters thereby assuring uniformity. The children should first be shown how to cut the letters. Manila paper 9″ x 12″ may be folded and cut into rectangles 4½″ x 6″ which makes convenient size for practice. First cut a unit out of oak tag or heavy paper the width of the letter stems. It should be longer than the diagonal of the rectangle. If light paper is used for letters, dark paper should be used for the unit since the contrast in value helps the children to form a mental picture of the letter. Do not attempt to show the children how to cut many of the letters at one time. They will become confused and will not grasp the explanation.

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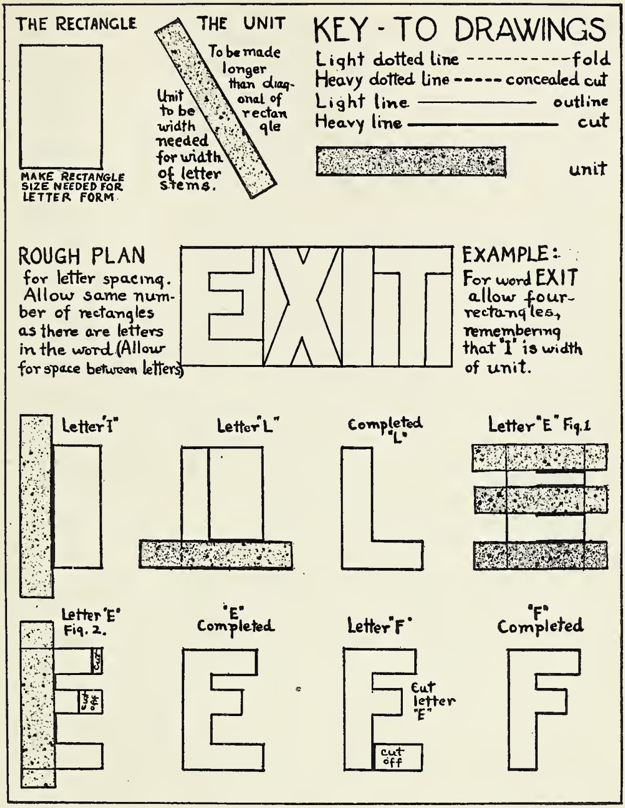
*The letters in this alphabet were designed by Miss Gertrude Saastamoinen for use in the schools in Cleveland Heights, Ohio. Miss Saastamoinen gives credit for the process to Miss Maude Lawrence of the Cleveland School of Education.

The simplest letters to cut are those of the I family, I, E, F, L, H, I, T. First place the unit along the side of the rectangle with edges together and cut an I. Then ask the children how they could cut an L using the guide. Then cut an F taking care that the lower bar is above the centre. The E may be cut next, the middle bar being the same distance from the top as in the F. The H may be folded and cut. (See Plate 40.)

If they have experienced difficulty in cutting good letters and are ready for this alphabet as they should be before it is explained the children will by this time show enthusiasm and pride in these letters and ask to be shown how to cut the other letters. However, some children will not understand the system at all, perhaps because they cannot see the various steps clearly, so after twenty or thirty minutes the children who understand the work should be allowed to make letters for something that they are doing while the other children are taken in a smaller group where the process is explained a second time.

The next group of letters in order of difficulty is the slant-



MAKE RECTANGLE SIZE NEEDED FOR LETTER FORM

To be made longer than diagonal of rectangle

Unit to be width needed for width of letter stems.

KEY - TO DRAWINGS
Light dotted line ----------- fold
Heavy dotted line ----- concealed cut
Light line ——— outline
Heavy line ——— cut

ROUGH PLAN for letter spacing. Allow same number of rectangles as there are letters in the word. (Allow for space between letters)

EXAMPLE:- For word EXIT allow four rectangles, remembering that "I" is width of unit.

Cut letter "E"

Plate 40. Diagrams for cutting letters I, L, E, and F.

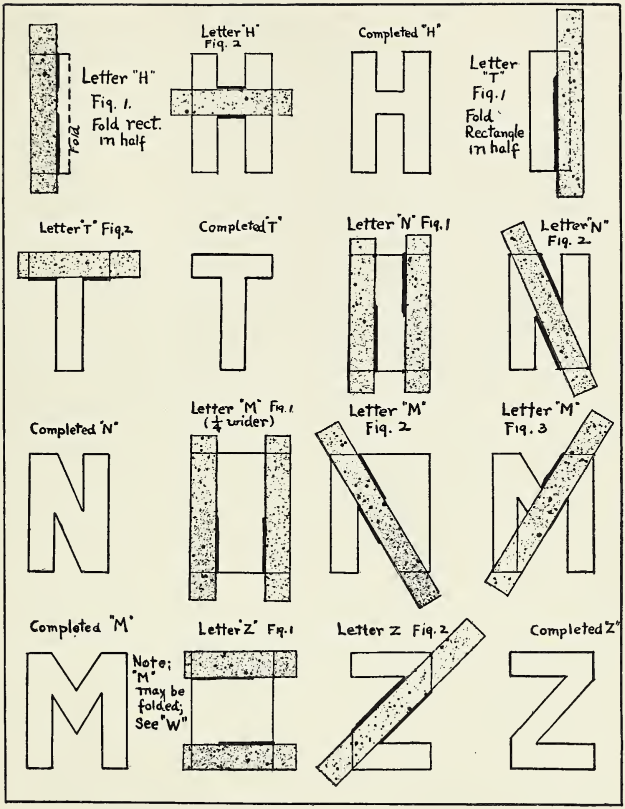


PLATE 41. Diagrams for cutting letters H, T, N, M, and Z.

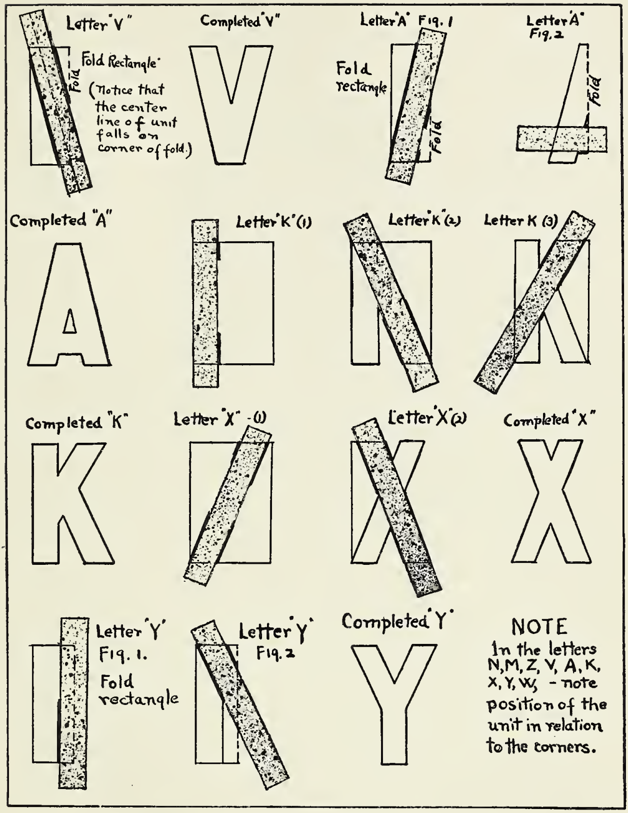


PLATE 42. Diagrams for cutting letters V, A, K, X, and Y.

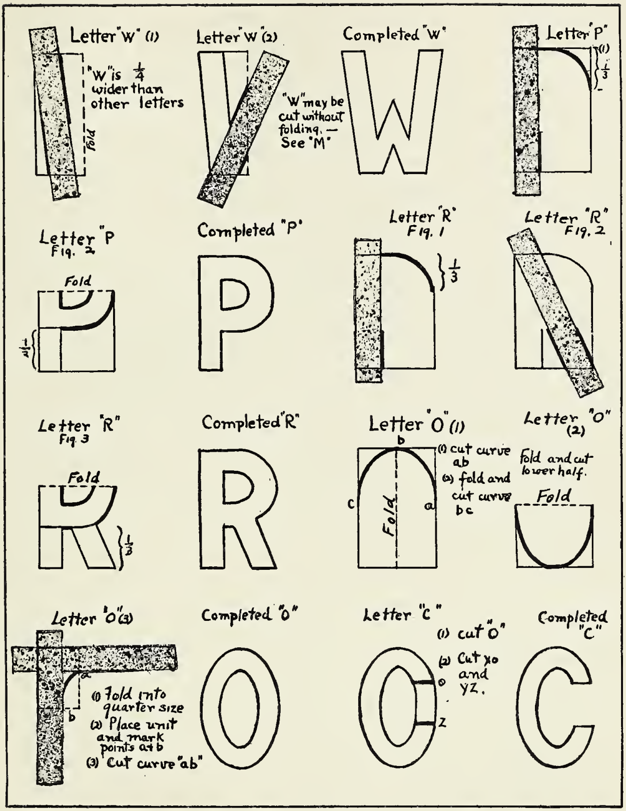


PLATE 43. Diagrams for cutting letters W, P, R, O, and C.

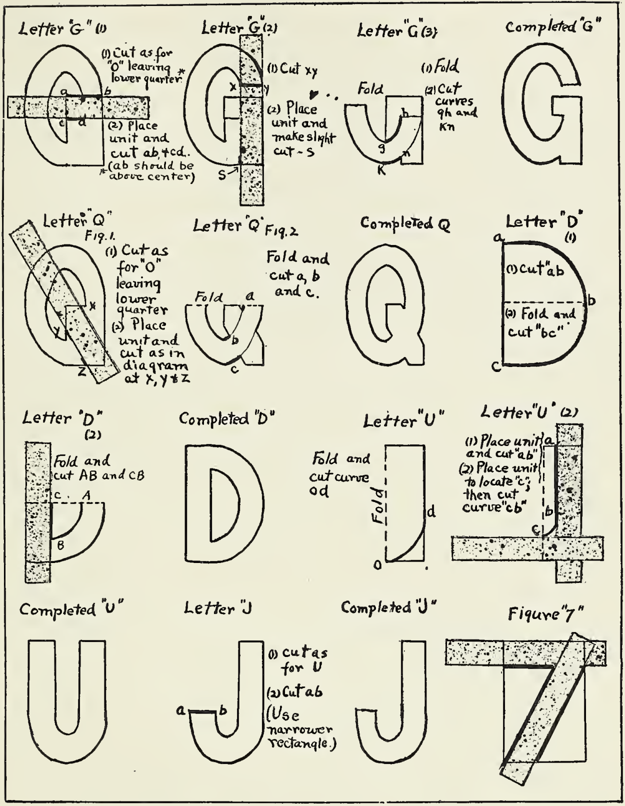


Plate 44. Diagrams for cutting letters G, Q, D, U, J, and figure 7

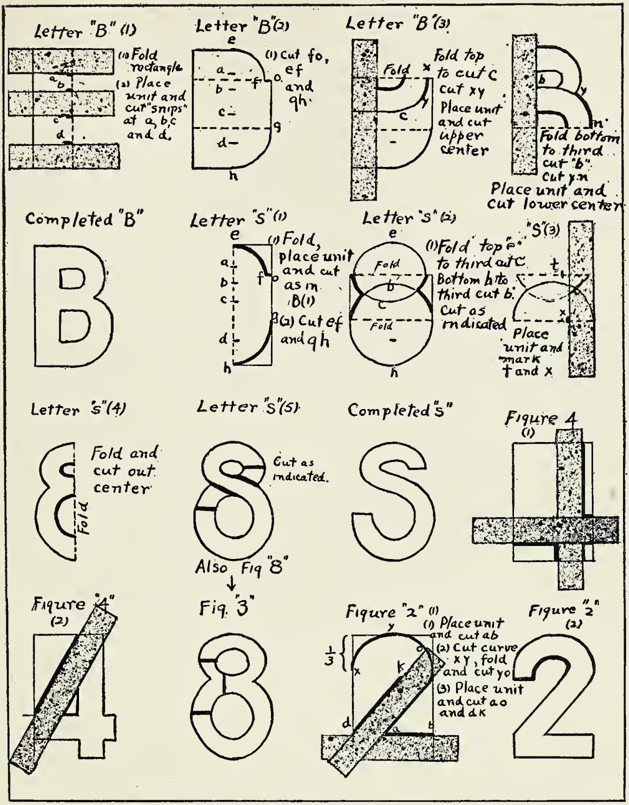
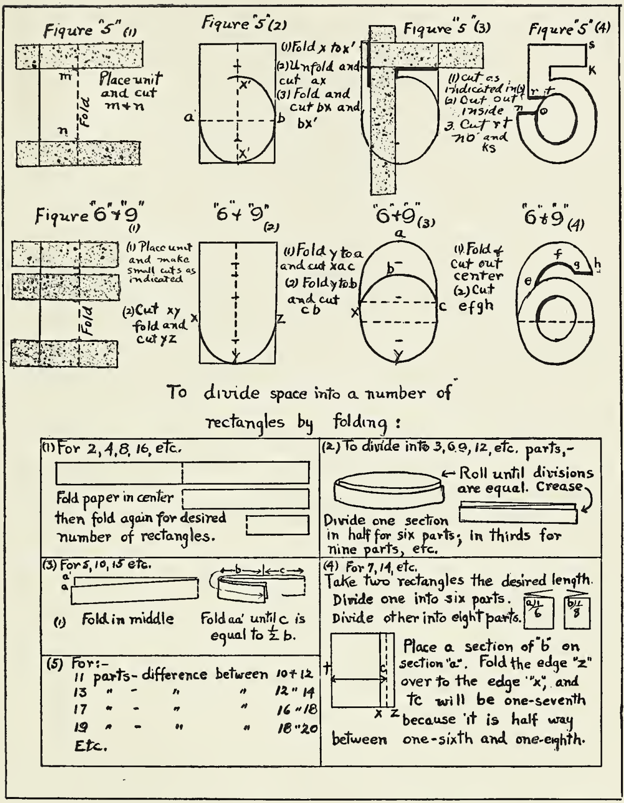


PLATE 45. Diagrams for cutting letters B, S, and figures 8, 4, 3, and 2.



Place unit and cut m+n

(1) Fold x to x'
(2) Unfold and cut ax
(3) Fold and cut bx and bx'

(1) cut as indicated in (3)
(2) Cut out inside
3. Cut rt no and ks

(1) Place unit and make small cuts as indicated
(2) Cut xy fold and cut yz

(1) Fold y to a and cut xac
(2) Fold y to b and cut cb

(1) Fold + Cut out center
(2) Cut efgh

To divide space into a number of rectangles by folding:

(1) For 2, 4, 8, 16, etc.
Fold paper in center then fold again for desired number of rectangles.

(2) To divide into 3, 6, 9, 12, etc. parts,–
← Roll until divisions are equal. Crease.
Divide one section in half for six parts; in thirds for nine parts, etc.

(3) For 5, 10, 15 etc.

(1) Fold in middle
Fold aa' until c is equal to ½ b.

(4) For 7, 14, etc.
Take two rectangles the desired length. Divide one into six parts. Divide other into eight parts.

Place a section of "b" on section "a". Fold the edge "z" over to the edge "x", and tc will be one-seventh because it is half way between one-sixth and one-eighth.

(5) For:–
11 parts – difference between 10 + 12
13 " – " " 12 " 14
17 " – " " 16 " 18
19 " – " " 18 " 20
Etc.

PLATE 46. Diagrams for cutting figures 5, 6, and 9, and directions for dividing a rectangle into any number of equal parts.

line group: N, M, Z, V, A, K, X, Y, W. Notice that the M and W require rectangles wider than the other letters. Of course it is best to give the letters in the order that the children ask for them. But since various children will ask for different letters perhaps it may be wise to proceed by families. (See Plates 40–46 for details of cutting these letters.) The X, Y, Z and Q are seldom used and since they are rather difficult letters to cut they may be omitted until called for.

The O family, O, C, G, Q, is next. The letters D, J, U, P, R are combinations of straight lines and curved lines. Children see similarity between the J and U, between the P and R. The B and S are similar in process and are the most difficult to cut. Children realize this and are very proud of cutting a good "S."

While good letter form is only part of good lettering (spacing being equally important) yet when children are learning to cut letters, the work should be put up and criticised for good letter form alone. Stop occasionally during the lesson or at least at the end and have several children (not too many at once) put their letters on the bulletin-board and have the class examine them. Look for (1) straight lines, (2) a good thickness of letter stems, not too "fat" and not too "thin" (most children get the stems too thin); (3) good curves, *i. e.*, "round" curves not "flat" curves; (4) good space division in cross pieces, which are always placed above the centre except in A. Let the children select good letters and tell why they are good. Those children who cut a letter particularly well may help other children who have trouble with it. After the children have mastered these letters they will have an alphabet adjustable to any size.

DIVIDING A SPACE INTO A NUMBER OF EQUAL RECTANGLES

Sometimes children have difficulty in dividing up a certain space. If it is easily divisible in terms of inches it becomes a simple problem in Arithmetic. If the space is not easily divisible into inches, it is easier to fold the rectangle into the desired number of smaller rectangles. If the number is 2—4—8 or 16, fold the rectangle in the middle, and then again and the remaining portion until the right number is obtained. (Plate 46.) To divide into 3, 6, 12, etc.—Divide rectangle into three equal parts. Then fold in centre for six and again for 12. Fold in three parts for 9. To divide space into 5, 10, 20, etc.—Fold paper in middle. Fold one side back until the space left is half of the folded part. (See Plate 46, Fig. 3.)

To divide space into seven or fourteen divisions. Cut two rectangles the size of the desired word space. Divide one rectangle into six parts. Divide the other rectangle into eight parts. Half the difference between one-eighth and one-sixth added to the eighth will be one-seventh of the space. (Plate, 46, Fig. 4.)

For 13 take the difference between 12 and 14; and for 11 the difference between 10 and 12.

This method of folding will give only approximate results since even with careful folding some space will be taken up with the fold. However, the results will be sufficiently accurate for the purpose. After the division is determined all the rectangles should be cut the same width except for M and W which are slightly wider. Unless there are two or three I's in the word, a small amount should be taken off of the rectangle to allow for space between the letters. Unprinted newspaper is best for this practice work.

Spacing.—After the letters are cut, the next problem is the spacing. The space for the word has been determined previously. (See page 133.) The rule for spacing refers to area rather than linear measure. Letters should have equal areas of space between them. This does not mean that the letters will have the same linear distance between them. The letters T, F, L, V, for example have large open areas and may be placed closer together than H, I, K, M that have a more closed background space. (See Plate 47.)

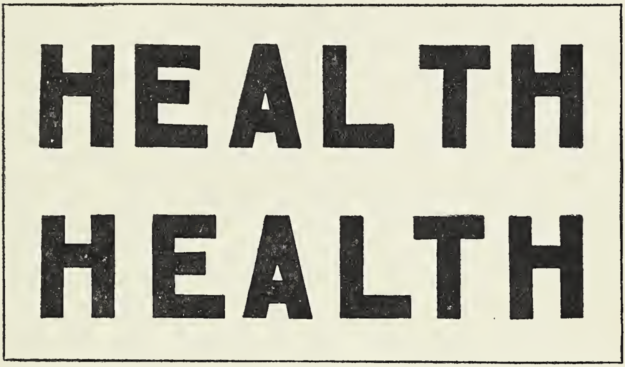


PLATE 47.

(Upper.) The linear distance between the letters is equal. Notice the effect of unequal spacing.
(Lower.) The letters were placed in the same space with equal areas between letters instead of equal linear distance.

When children draw the letters and a change in the spacing necessitates erasing the letters and drawing them again it is very difficult to get good spacing in lettering. However, cut-out letters may be easily shifted until good spacing results. When children are arranging letters it is well to encourage them to ask each other for criticism after they have the letters placed ready to paste. After a piece of lettering is completed it should be criticised by the children on the basis of (1) good letter forms, and (2) good spacing (equal areas between the letters so that the word itself is the unit). (See page 135, Posters.)

If Roman history is studied in the sixth grade, as is the case in many schools, the principles of Roman lettering may be explained and some Roman lettering may be attempted by the children for book titles or captions. If the children have gained good control of the single-stroke alphabet, described on page 102, they may try a wide pen or wedge-pointed crayon or large pencil to make the shaded part of the Old Roman letter in one stroke. However, great respect should be established for the Old Roman letter, if it is discussed. The letters must never be shaded on the wrong side (a grievous fault). Children can be helped to appreciate the beautiful proportion in the Old Roman letter. Even if this alphabet is introduced, do not expect it to become the general utilitarian letter for children's use. It is true that it is the utilitarian letter for adults but on account of the details involving great time and effort it is not a letter that children can use as they can the unshaded letter.

As Roman lettering may be introduced with Roman History, so, Gothic lettering may be introduced with Mediæval History. The children can cut their own pens from reed and follow the process the monks followed in lettering their manuscripts. The wide pen may be used with the alphabet shown on Plate 39. Children may be shown other alphabets developed during the Middle Ages. They must understand, however, that one alphabet must be used throughout a piece of lettering. Except in monograms no liberties should be taken with the letters such as "fancy twists" that children are apt to attempt.

The art problem in good lettering is not inventing new letter forms. We have inherited the letter forms. The problem for the average individual in lettering is to master a simple alphabet and through good letter forms and careful spacing to produce a beautiful piece of work.

CHAPTER VII

PAGE ARRANGEMENT AND THE ART PROBLEM IN MAKING POSTERS AND BOOKLETS

The problem of page arrangement occurs so frequently in the elementary school that it deserves special attention. Booklets and posters involve problems of page arrangement with certain changes to meet their varying purposes. The principles of art structure form the basis for all rules for page arrangement. Children should arrive at such rules through the application of the principles and not through dictated form dogmatically established.

Principles of Page Arrangement—Margins.—The first consideration will be the single page as distinguished from the page in a book which always must be considered in connection with the opposite page. This single page may be an arithmetic paper, a Christmas card, an English paper, or a mounted picture. In planning a page the margin is the first problem:

(1) Always have a margin. The margin is the rest space or the division that separates the material on the page from its surroundings. It is also a matter of convenience, an application of fitness to purpose; the margin provides a space for holding a page without covering the reading material.

(2) The side margins are always equal, unless there is some reason from the standpoint of fitness to purpose that one margin should be wider than the other. The practice of placing titles on booklets and programme covers at the right

or left of the centre is without justification from the standpoint of balance. The form of English paper with a wide margin on the left and no margin on the right is an arrangement ignoring art principles and is being, and should be abandoned.

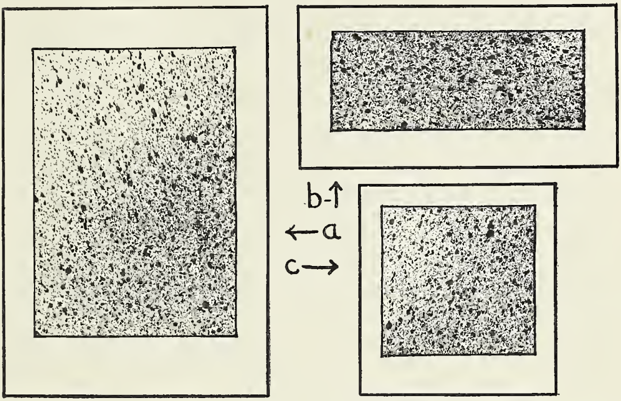


Plate 48. Principles of page margins. *a.* Vertical rectangle. The major movement is vertical, therefore the top margin is wider than the side margins. *b.* Horizontal rectangle. The major movement is horizontal, therefore the side margins are wider than the top margin. *c.* Square. Horizontal and vertical movement equal and the top and side margins are the same.

Notice that in every case the bottom margins are widest.

(3) The bottom margin is always the widest margin. (See page 85, Proportion.) Theme paper provides for a margin at the top of the page and no margin at the bottom! One teacher told me that her children turned the paper upside down placing the margin at the bottom of the page. This is a good solution to the problem if the paper provided is of that form.

(4) The top margin should be wider than the side margin if the page is longer vertically than horizontally, and narrower than the side if the page is longer horizontally than vertically. The reason for this is quite obvious. If the "movement" of the page is up and down a wider margin will be required in that direction. If the greater movement is across the page then a wider margin is required at the sides. (Plate 48.)

If the material on the page is square in form the top and side margins should be the same since there is approximately the same movement in both directions. (The bottom margin should be wider nevertheless.)

Sequence of Teaching Principles of Margins.—The first, second and third principles are quite easily understood by children and should be taught in the order stated, *i. e.*, (1) Always use margins, (2) have side margins equal, (3) have bottom margins widest. Children will usually observe equal side margins, but must be taught and encouraged to have margins at all and to have the bottom margin widest. That means that children must be taught to have page margins, but having progressed that far equal side margins follow quite naturally, perhaps because of the obvious satisfaction of balance. However, the having of the wide margin at the bottom is not so obvious and the habit of applying the principle is established with greater effort. It can be established, however, because the rule does not vary with a change in the shape of the page.

However, the fourth principle,—the width of the top margin varies with the shape of the page, is also a matter for more discrimination in proportion. For that reason it is better to teach younger children the first three principles and in regard to the fourth,—simply have the top and side margins equal. When the children can appreciate and apply independently the principle of adjusting the top margin to the "movement" in the page, then it can be taught.

Some art supervisors object to this on the grounds that the children should be taught the "final word" in the beginning. It seems to me that it is a matter of evolution in appreciation of good spacing and since it is not within the æsthetic discrimination of young children as is the application of balance in equal side margin; and is not constant as is the rule of always having the widest margin at the bottom, the next best thing is to observe equal side and top margins. The variable rule based on a principle that is not understood will always result in confusion and a feeling of incompetency. This may be observed in the case of young children who when taught the four principles (page 126) of margins will observe the first, second and third and then go to the teacher and ask what the top margin should be.

Balance, Rhythm and Subordination in Page Arrangement.—After the margin has been determined the next step is the arrangement of the material within the margin. Attractions should be arranged in order to give balance to the page; children are more sensitive to balance in respect to the vertical axis than horizontal, so the first introduction to balance should be shown in having equal attractions on each side of a vertical axis. Later balance should be considered also in respect to the horizontal axis.

Rhythm in page arrangement is observed in repeating the lines of the page, in the arrangement of pictures and lettering. To arrange lettering in any way but horizontally is also a violation of fitness to purpose since it is less legible.

Subordination and emphasis are observed in both the selection and arrangement of material. The pictures should have about the same amount of attraction, otherwise the emphasis will not be consistent. The lettering should have the same "value" as the illustrations. In regard to arrangement much can be done to subordinate any one unit to the whole page. The inter-spaces between parts of the page should always be less than the enclosing margin, for the greater the margin, the greater the separation of the parts. (Plate 52.) If there are several small pictures on a page they should be closely grouped so that the effect is of a large unit rather than several small units.

These principles of arrangement are needed for all written work, placing material on the bulletin-board, the mounting of a picture or a series of pictures, the making of a poster or a booklet.

THE POSTER

The making of a poster involves the principles of page arrangement, but a poster is a special kind of a page—it not only has something to tell but it must gain the attention and hold it until it has imparted its message. The ordinary page carries material that waits modestly to be read, but the poster must force itself to be read.

The poster has been widely misused in public school work. Many teachers feel that for every special holiday the children must make a poster and many of the current elementary school magazines have the "poster" page of outline forms to be cut out or used for a pattern and pasted on a background according to directions. Of course such a procedure cannot be justified either from the standpoint of art or education, but in addition such an arrangement is not a poster. A poster tells something; it is a means of advertising to sell an article or an idea to those who see it. To make a Thanksgiving poster or a Christmas poster is quite incongruous. There may be a poster for the purpose of urging one to give help to the needy at Thanksgiving or a poster advertising a Christmas sale, but an expression about Thanksgiving or about Christmas in poster form is as incongruous as making up a list for the grocer in poetry.

Making a Poster.—The first step then in poster making is having a genuine need for getting some idea before a group, or some real need for a poster. The next step is to decide on the wording. This must be brief and to the point. In addition to the wording a picture or design will help to gain the attention and get the idea across. Having the words and decoration in mind the next step is planning the arrangement.

I. Margins. (See page arrangement, page 126.)

(1) Always have margins.
(2) Side margins equal.
(3) Bottom margins widest.
(4) Top margins equal, greater or less than side.

II. Color: Hue, suggested by the idea of poster. Value, strong contrast between background and lettering. Intensity, bright color for accents, less intense color for background.

III. Balance in respect to attractiveness as in page arrangement.

IV. Rhythm: the main lines of the words and decoration should follow the outside of the page. The question arises here as to the use of the unusual line, the diagonal or zigzag line in the main features of the poster. It is true that the line that does not follow the main lines in direction does attract attention, and it is used to a great extent in commercial advertising. However, it is not pleasant since it gives a feeling of unrest. It is quite possible to attract the attention pleasantly and since the greatest value to children in making posters is in learning to know and apply art principles, it is better to have the main lines of the decoration follow the lines of the poster.

Rhythm should also be expressed in color. A dominant color should be repeated throughout the poster.

V. Emphasis and subordination are gained in a poster by: (1) Size—make the most important parts large. (2) Color —make the most important parts intense and with strong contrast in value. (3) Pattern—the most important parts should have more detail in pattern.

For consistent subordination and emphasis parts of the poster should have the same legibility. The letters should have heavy stems, and the pictures or designs should be made up of large masses, legible from a distance.

Children often make the lettering large and readable and then use fine lines for the illustration or design. This is best handled by explaining the cartoon to the children as this is really a misuse of the cartoon. A cartoon is made to be read at close range, from a book or newspaper.

The Plan.—The poster as any successful piece of work must have a plan. The plan may be first sketched out roughly and several different arrangements may be tried for the same wording. The making of the plan is a difficult procedure with children. They want to rush into details and usually begin with lettering the words before they know how much space the word is to occupy or where it is to be placed. After the sketches of various plans are made, the best one should be selected. Next take a piece of unprinted newspaper the size the finished poster is to be and for every word, picture or design make a shape of dark paper and arrange on the paper just as the words and design will appear. This gives a plan for the poster without any details. Move these rectangles back and forth until the right arrangement is decided upon. They may be pinned to the paper or if the arrangement is fairly well decided they may be pasted. Then put these plans on the bulletin-board and criticise them from the standpoint of the poster principles—Margin, Rhythm, Balance, Emphasis. Then change the plan in the light of the

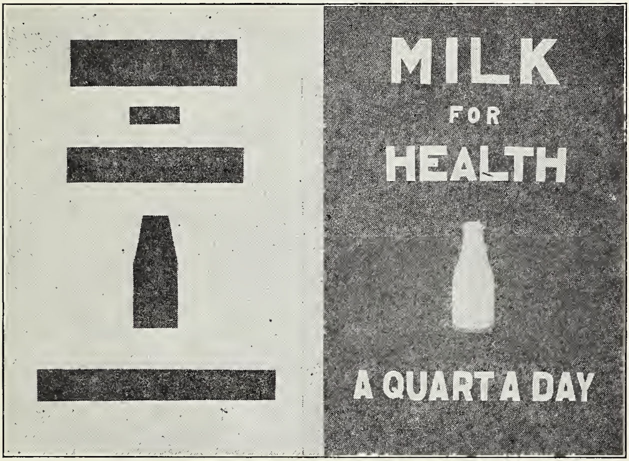


Plate 49. Poster and preliminary plan.

criticisms. In this way changes may be made quickly. The pasting or pinning should be done with the idea of changing for improvement if necessary. Many poor posters result in bad arrangement, not so much because the child does not know a better way of doing it, but because he puts in details before the plan is complete and changes are avoided because a change necessitates discarding what has been accomplished. (See Plate 49.)

Adding Details.—When the plan is satisfactory the details are added. The rectangles are taken one at a time and the lettering made to fit. The letters may be drawn in and shifted to fit the space, but the cut-out letter is best for elementary grade children. (See page 105, Lettering.) Divide the rectangles into the number of spaces to accommodate the letters, and cut the letters. Arrange these letters with equal areas between and when the best spacing has been determined so that there are equal areas between the letters, mark the spaces for letters and paste.

Then take the space provided for the picture or design and fill it by arranging the design within the space. When the posters are finished let the children make standards for judging and discuss the posters on the basis of these standards. Many teachers consider an art problem finished when the article has been completed. Children learn fully as much about principles of art by examining finished products as they learn in any step in the making of the article.

One class worked out these standards and rated their posters:

(1) Margins—enough?
            wider at bottom?
            sides equal?

(2) Color—Is the hue well chosen?
    Is there contrast in light and dark?
    Is the background dull and are the important things bright?
(3) Is the poster balanced?
(4) Are the lines of the outside repeated in the poster?
(5) Do the important things stand out?
(6) Lettering—Are the letter forms good?
    Are the letters well spaced?

The question often arises whether pictures cut from magazines should be used in making posters. In considering the activity only it would be better for the children to make the whole poster. However, since the poster necessarily must appear before people who are more or less unfamiliar with children's work it must have a standard of technique high enough to make it convincing. This necessitates either a longer time in construction than the interest of the child will warrant or some means of shortening the process. The use of pictures seems to be a good solution to this problem. The child may find a picture with large masses and strong color cut from the many advertisements of current magazines. There is still plenty of opportunity in arrangement and choice of color for background and letters to apply principles of art. Using the alphabet suggested on page 105 and a picture the child in the lower elementary grades can in a reasonable time produce a poster that will fulfil its purpose. The same procedure in making the plan in terms of rectangles should be followed.

MAKING BOOKLETS

The booklet problem is another problem in page arrangement. However, the pages in a book are not seen singly but two opposite pages are seen together. Thus the two opposite pages become a unit, instead of the single page being the unit. This changes the page margin for the two inside margins are seen together as one margin. Therefore the inside margins in a book should be narrower than the outside margins, so that the two pages hold together as a unit.

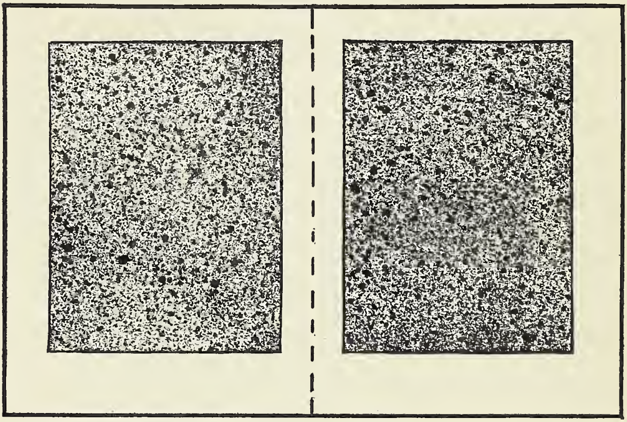


Plate 50. The two opposite pages in a book are seen together and become one unit, usually a horizontal rectangle. Thus the side margins are wider than the top margins. The two margins between the pages are seen together and should be made narrower than the side margins so that the two pages will not be too widely separated. Some space must be allowed, however, for the binding of the book.

Since the movement of the double page is horizontal the side margins should be wider than the top margin. (Plate 50.)

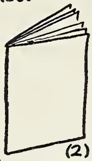
There are two general types of booklets that may be made in elementary grades. (1) The pamphlet type made from

A. To make a pamphlet-type booklet.

(1)

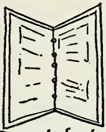
(1) Fold sheets in half.

(2) Place sheets together and number pages.

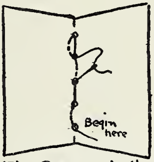


(2)

(3) Do lettering and illustrations. Make cover.



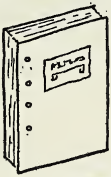
(4) Punch holes equidistant apart.



(5) Sew. When back at starting point, tie knot.

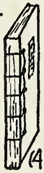
(6)

B. To make a Japanese-type booklet:



(1)

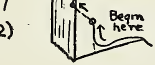
(1) When pages and cover are finished, place together and punch holes equidistant apart and $\frac{3}{8}''$ from edge.



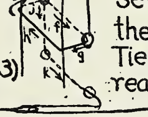
(4)

(2) Sew as in 2

(3) Notice position of thread at "a" (2). Begin at "a" (3) and sew as in (3). Follow the arrows, a, b, c, etc. Tie knot when you reach starting point.



(2)



(3)

PLATE 51.

sheets of paper twice the page size. (2) The Japanese booklet which is made from sheets page size.

The pamphlet book is made by folding the sheets in the middle, placing the pages together and sewing on the fold. (See illustration, Plate 51.)

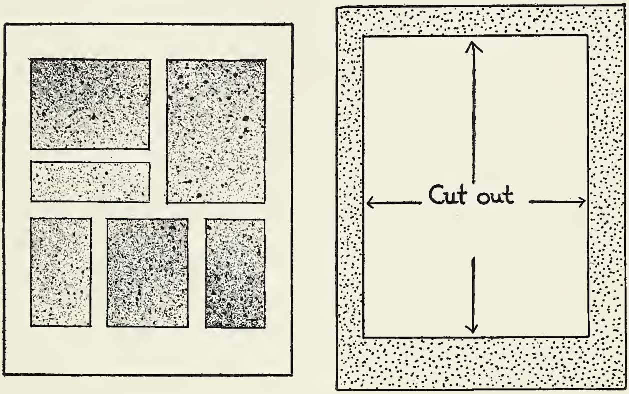


PLATE 52.

(Left.) The greater the margin the greater the separation. In order to hold the various parts together the spaces between the parts must always be less than the enclosing margin.
(Right.) Page margin cut from thin cardboard, used to repeat margin on pages of a book. The left-hand margin is the inside margin and is narrower because the two inside margins are seen together. (See Plate 50.)

In binding loose leaves part of the sheet must be allowed for binding. The pages are placed together and sewed. (See Plate 51.) Each type has its advantages. The pamphlet type opens flat but the whole book must be planned because pages cannot be inserted. Every sheet carries four pages, but the pages do not follow one another.

The Japanese book does not open so easily, but the book may be done a page at a time and then put together.

After the kind of book is decided upon the margin should be determined. Every page should carry this same margin. Since it becomes an effort to draw the margin on every page it is well to cut a margin from thin card board and use it to repeat the margins on each page. (See Plate 52.)

The next step is to plan the pages. Similar material should be placed on opposite pages. Thus colored pictures on one page should be followed by colored pictures on the opposite page. The text may be lettered by the children or written in script. Manila paper is ordinarily used for booklets. This paper will not take ink. If the text is written in ink the ink paper should be cut the size of the space within the margin and mounted in the book. Pencil or crayon may be used if the lettering is done on manila paper.

If the margin is not suggested by the arrangement of the material, the page may be held together by showing margin line. If the margin line is expressed it should be a heavy line in keeping with the material on the pages. Light pencil lines are only guide lines and should be erased.

When the book is finished it is ready for the cover. The cover is first a problem in fitness to purpose.

A book cover is for (1) protection and (2) identification of the book. The material then must be durable, of a dull intensity and of about middle value, since a very dark or very light cover shows finger prints. The book should be sewed or fastened with cord. Ribbon is not suitable. The cord should match the cover, or parts of the decoration. It should never be more conspicious than the title.

The title should occupy the important part of the cover. The lettering may be done in crayon or paint. The letters may be cut out and pasted on if the children are likely to

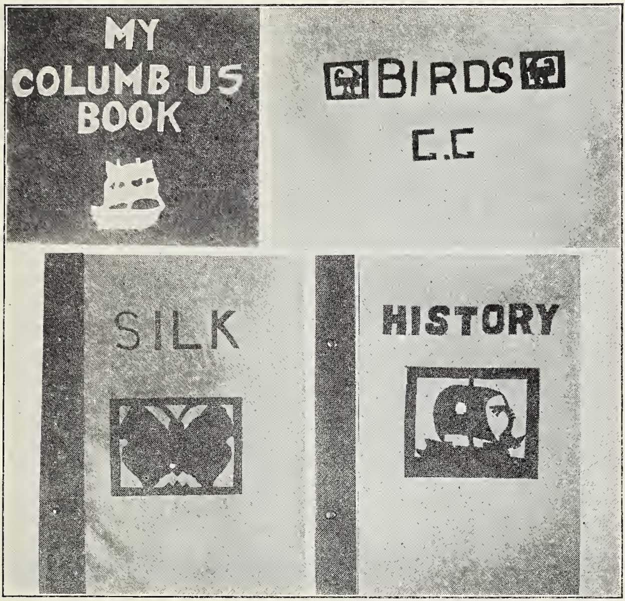


PLATE 53. Group of booklet covers.

(Upper left.) Shows need for principles of margins as the next principle for discussion.
Upper right.) Spacing shows application of margin principles. Notice that the title space has been extended to fit the page; also that the motif has been well adapted to fit the space. The obvious need here is for help in letter forms.
(Lower left.) The decoration is too important for the title and there is too much space between the title and the decoration, showing a need for the principles of spacing of parts of a page and subordination and emphasis.
(Lower right.) This cover shows sufficient understanding of the principles of arrangement to justify a more durable cover than one made from cut paper. Fitness to purpose should be discussed as a basis for helping the child to see a need for a more durable material to use in applying the cover design; skill in the use of a suitable material, such as crayon, paint, or ink, also should follow.

spoil the cover in doing crayon or painted letters. However, letters pasted on are not serviceable and for that reason it is better for the children to letter the title and trace on to the cover and fill in the letters with paint or crayon. The sequence of materials would be for the younger children to plan the lettering, trace outlines and fill in with crayon. Older children may fill in with paint, and later the letters may be spaced with single lines for a guide and then done with a wide pen. (See page 103, Lettering.)

The decoration or design on a book cover adds interest and variety to the book. It should be a design and not a picture. (See page 73.) A picture carries the illusion of distance or the third dimension and is not decorative. It needs protection and belongs on the inside of the book. Children have a tendency to accent their choicest picture by putting it on the outside of the book. A discussion of the frontispiece in a book will lead them to see a more consistent way to place the best picture.

The plan for a book cover should be made in the same way the poster plan is made; the spacing should be discussed and then details added. The space for the design should be filled by adapting a motif suggested by the subject matter of the book. (See Plate 53.)

End sheets are often decorated. Children may make a simple unit from a motif suggested by the book and repeat it by block printing in an all over pattern. Inch-squared paper will simplify the problem of rhythmic repeats. The end sheet should be a transition between the cover and the pages.

In so far as possible the illustrations in the book should be similar in form throughout. If crayon drawings are used, all illustrations should be done in crayon, the same for pencil, or paint, or pictures cut from magazines. It is not always necessary for a child to make his own illustrations in order to justify his making the book from the standpoint of art education. There are excellent opportunities for the exercise of principles of design in the selection of pictures, lettering and page arrangement.

When the pages and cover are finished the book may be put together and sewed. In order to have the stitches well spaced it is wise to mark the points for the holes. In the pamphlet book mark the spaces on the middle sheet and punch the hole with the needle from the inside out; then the book may be sewed easily. In trying to make the holes from the outside in, the sheets are often separated, making the hole in the wrong place. (See Plate 51A.)

In the Japanese book the spaces for sewing should be dotted along the left hand side of the cover. Allow about one quarter inch for binding. For a very firm binding sew along the side and also across the back. (See Plate 51B.)

The binding of a book in stiff covers is a more advanced problem and should not be attempted until the children have learned principles of page arrangement and cover design, and have made both forms of flexible covered books. The principles of page arrangement are the same.

Children never cease to find delight in making books. It is a natural expression of interest in new experiences. Children enjoy learning about another country, so they write a book about it. If the work is done with respect to subject matter, the book will be of great educational value to the child who writes it. If he is also interested in having it a beautiful book, he increases his respect for the book itself and enlarges his capacity for æsthetic enjoyment.

CHAPTER VIII

THE USE OF INDUSTRIAL ARTS MATERIALS IN THE ELEMENTARY GRADES

The need for industrial arts materials in the elementary grades is somewhat different from the need for the same materials in the lower primary grades. In the primary grades children use the materials for make-believe grown-up situations with small regard for a high degree of adequacy of the finished product. For instance a primary child will get much satisfaction in making a house and furnishing it even though his finished product does not pretend to satisfy real-life requirements for a house and furniture.

In the elementary grades the children have become interested in making things that are intended to meet definite needs. They are no longer satisfied to use materials in an imaginative or make-believe way.

The question of how much time children should spend in making articles from wood, clay, cloth and metal continues to be debatable. On the one hand we are constantly being reminded that we are living in a manufacturing era. Articles are produced in quantity by machinery and the individual cannot afford to make things for himself by hand. On the other hand we must recognize the right of every human being to satisfy his desire to create and to know the joy of "making things." This does not mean that the purpose of industrial arts materials in the elementary grades is to prepare each boy to build his own house or each girl to make her own clothes, but to help every child to know the pleasure of working with materials and to help him to gain the beginnings of such skills with tools as he may continue to develop with increasing satisfaction. And, taking into consideration the extensive manufacturing era in which we live, the use of industrial arts materials should also lead to an appreciation of the manufactured product through knowledge of the process involved. This knowledge should be gained both through actual work with the material and a study of the process as it has been developed commercially.*

The Making of Models.—Industrial arts materials are also needed in the elementary grades to afford the children opportunity for concrete illustrations of facts in history or geography. The sand-table has come to be quite indispensable in the classroom. Much benefit may result from the use of materials in connection with social studies if the work is well planned and carried out. Undoubtedly, however, there has been much waste of time and material with very little benefit to the children in haphazard activities that supposedly correlate with history or geography.

Much of this useless activity results from inability to discriminate between art activities and historic or geographic models. Art is the expression of feeling about an experience. It is not necessarily based on fact primarily, but carries "atmosphere" giving the artist's interpretation, or his response to the experience. The model is made in order to make clear some historical or geographical fact. The discrimination that must be made is that while creative expression on the part of the children may be imaginative, the model to be of value must be based on facts. A sixth grade made a sand-table of

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**Industrial Arts for Elementary School*, Bonser & Mossman. (Macmillan.)

Egypt. Camels, palm trees and pyramids, all approximately of the same height, were distributed promiscuously along the Nile River. The activity, even though enjoyed by the children who always enjoy working with materials, was of little benefit to the children as a means of increasing their knowledge of history. The finished product gave false impressions of Egypt; the making of the model did not add to their knowledge because they did not find out the essential facts which would have made an accurate model possible.

The making of models may be classified into three groups, according to the purpose:

(1) The model may be made in order that the children may better visualize certain facts; as a model of a divide between two river systems; or a castle to understand the means of defense.

(2) The model may be made in order to stimulate the children to extensive reading in order to find out certain facts essential to the making of the model; for instance the making of a model of a Greek house.

(3) The model may be made in order that the children may gain an understanding of a process of construction, as the making of a log cabin, or a teepee.

While one is usually more apparent than the others, all three principles should be considered in the making of any model. A fifth grade teacher wanted the children to have a clearer idea of a log cabin. The manual training teacher worked out a plan and had all the boys make log cabins, by making a small house and then covering the house by tacking on split twigs. The purpose stated in (1) was fairly well accomplished since the outside appearance of the finished product gave some idea of how a log cabin looks. Nos.

2 and 3 were entirely ignored, for the children had no part in making the plan and they not only learned nothing about the real process of building a log cabin, but gained many false impressions about its construction.

The following plan for a sand-table shows this procedure:

A SAND-TABLE SHOWING THE ACROPOLIS AT ATHENS AND SOME OF THE PRINCIPAL BUILDINGS

THINGS WE MUST FIND OUT TO MAKE OUR SAND-TABLE	WHAT WE FOUND	WHAT WE ESTIMATED BECAUSE WE COULD NOT FIND THEM
Length of Acropolis	About 1000 feet	
Width of Acropolis		400 feet
Height of Acropolis hill	About 200 feet	
Parthenon:		
Length	228 feet	
Width	101 feet	
Height	59 feet	
Erectheum:		
Length	74 feet	
Width	37 feet	
Height		40 feet
Temple of Nike:		
Length	27 feet	
Width	18 feet	
Height		22 feet
Propylæa:		
Length	75 feet (square)	
Wings	150 feet	
Height		45 feet
Theatre of Dionysius		200 feet

See Illustration, Plate 54.

Books used: *Life of the Ancient Greeks*, C. B. Gulick (Appleton). *New International Encyclopædia*, Dodd Mead. *Outline of European History*, Robinson and Breasted (Ginn & Co.). *Map of Acropolis*, University Prints.

Procedure in Making Models.—The purpose of making the model and the amount of detail to be included will vary with the ages and abilities of the children, but the general procedure is much the same.

(1) The children and teacher must have a definite purpose, or must have the problem clearly in mind—"What is the model to show?"

(2) Make a preliminary plan of the things that should be included.

(3) Go to reliable sources and get necessary information about sizes, forms, materials, structure, etc.

(4) Make a "working drawing" on the basis of this information. (See page 67, Working Drawings.)

(5) Construct model from plan.

(6) Discuss finished work on the basis of (1) possible errors, and (2) summarizing what has been learned.

In working out models it often happens that some children waste time in watching other children work or because they have nothing definite to do.

If there is not enough to do in making the model for all the children to take part, then the work should be delegated to some of the children. They may do the work, and then explain the results to the class. If all the children are to take part the teacher should lead the discussion, helping the children to concentrate on the essentials and to distribute the work. The children may feel the responsibility and choose their committees but if the teacher does not direct the preliminary discussion much time will be wasted since the children will not have the problem clearly in mind. After the information has been collected by members of the class the final plan may be made on the blackboard. The teacher may take charge and the pupils may contribute information gained. Or, one or two children may make the final plan on the basis of collected information and then submit the plan to the class. However, children in the elementary school are not sufficiently skilled to be able to hold the interest of a whole class to work out such a plan. They may work out the plan by themselves or they may report to the class with profit but to work out the plan and also hold the group at the same time requires the skill of the teacher.

After the working drawing has been made each child may contribute certain parts which must be made according to the sizes provided for in the plan. Help in the technique of handling the materials being used should be given to the children when it is needed.

A sand-table is convenient but not necessary to have in a classroom. Sand is useful mainly because it provides a means for making things stand up. Any table may be used and objects may be placed in a clay base as a means of keeping them upright. Sand-tables are of questionable value to young children because the details are necessarily small and require too intricate work. It is better for young children to take a corner of the classroom for the model and make it large than to make the model small enough to fit on a sand-table.

In using materials as a means of teaching history or geography the teacher should not hesitate to use the history or geography period and not feel that all materials must be handled in the art period. The time provided in most schools for teaching art is not adequate for teaching the actual subject matter in art that should be taught. Teachers must recognize that the use of materials is an excellent help in teach-

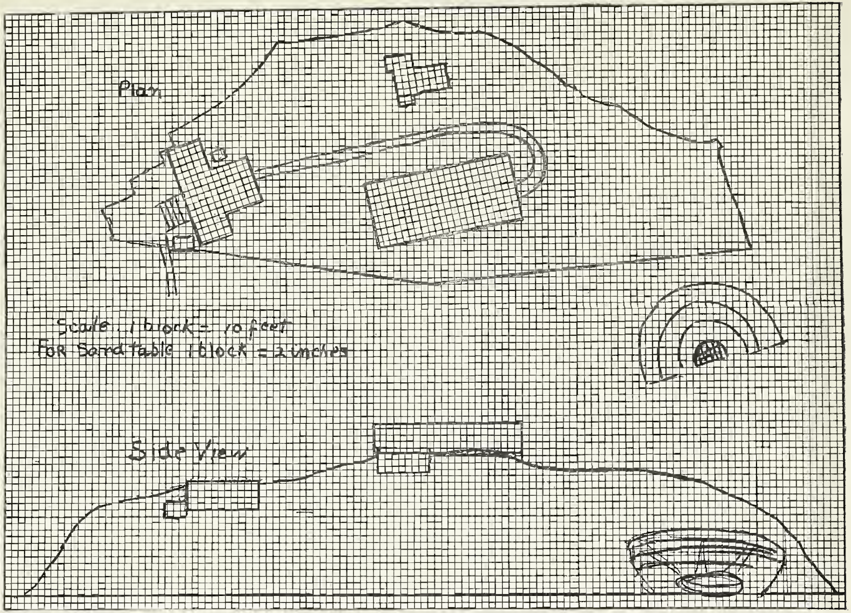

PLATE 54. A plan for making a model of the Acropolis at Athens.

ing. A special period is provided for the teaching of penmanship. However, no teacher feels that all the writing the child does during the day must be included in the penmanship period. In the same way the use of art materials may lead to a better mastery of other subjects. But this use of materials must not be misinterpreted as complete art training.

CHAPTER IX

ART APPRECIATION

It is quite obvious from a study of Art courses that in general there is a conscious need for the teaching of art appreciation. The interpretation of "appreciation" varies as do the methods in developing it. Frequently appreciation is interpreted as "recognition,"—that is the course in appreciation consists of learning to recognize certain works of art and to associate with them their titles and the names of the artists who created them.

The Purpose of Art Appreciation.—Art appreciation must do more for the child than acquaint him with the names and titles of a few pictures. It must develop his ability "to read" pictures for himself. With this technique he can approach a work of art independently with resulting enjoyment. It is such an ability as is built up in teaching the child to read. There is no attempt made to have the child read everything that he is ever likely to want to read throughout his lifetime, but he is taught such a technique of reading as will enable him to read independently.

The field of art appreciation has been largely limited to pictures. It should be extended to include all of the space arts—painting, sculpture, architecture and also the minor arts. Besides understanding what the work of art is about there is the equally important phase of enjoying the work of art from an æsthetic point of view.

The Approach to the Work of Art.—When a child works with art materials the activity has been provided for with the idea in mind that art is expression and that the child uses materials for something that he wishes to express. This point of view should be extended to the procedure in understanding a work of art. The work of art should be approached as an expression of a human being. Thus it was gratifying to hear a boy in the second grade speak of taking his drawing "to another artist to have copies made."*

The work of art is the ultimate result of a series of efforts of an individual. It has its beginning in a feeling about an experience; then the individual desires to express his feelings about the experience; there follows a shaping or adapting of material until the feeling or idea is perpetuated in the work of art. The work of art should be approached then, not as an abstract lifeless product but as the expression of an individual.

Teaching the Lesson.—With this in mind let us follow the lesson.

(1) The children should look at the picture. If it can be conveniently arranged the title should not be disclosed at first. What is the picture about? What would you name the picture? Example—*The Song of the Lark,* Jules Breton. (Plate 55.) The children may say it is a picture of a girl walking barefooted in a field. Titles suggested, "The Barefoot Girl." "The Girl in the Field." "The Happy Girl." "Sunrise."

(2) Give the artist's title. Explain if necessary. Let the children decide what the artist has told them about the title. Avoid needless repetition of comments the children have made. Example—"The artist has named his picture *The*

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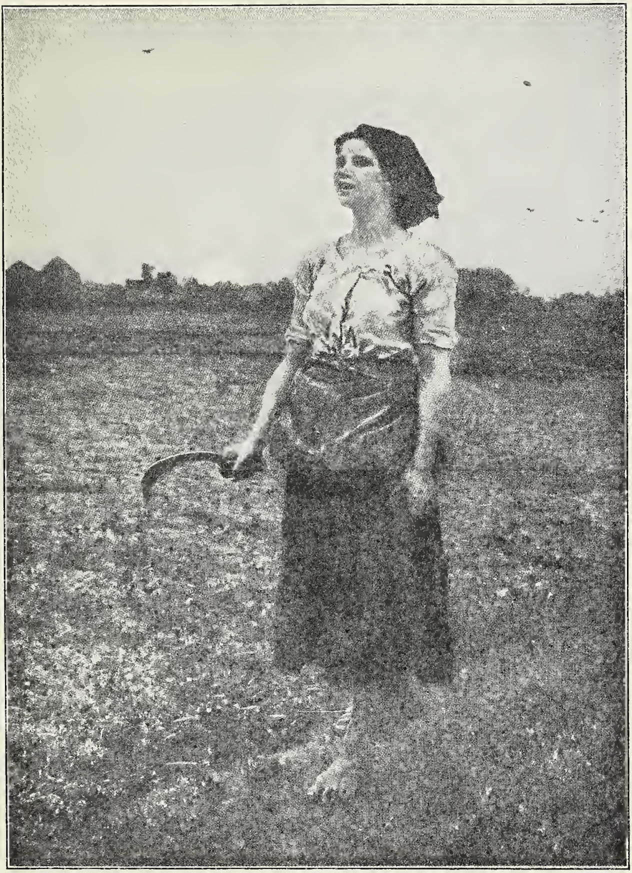
*The boy had made an Indian book and his father had copies printed. In telling about it the boy said: "I made the book of pictures, and then my father took it to another artist and he made all the others."

Song of the Lark. No one has mentioned such a title. What has the artist told about *The Song of the Lark?*" "There is a lark up in the sky. It is flying."

(3) Give additional information, which will add to the child's understanding and enjoyment of the picture. The discussion should include something of the circumstances that led the artist to paint the picture. When we look at the picture we should share this feeling that caused the artist to paint. Example—"If the artist likes to see birds flying why didn't he paint it large so we could see it too?" "He liked to hear larks sing." "How do you know?" "Because he called it *The Song of the Lark.*" "Has he told us anything about the Lark?" "No, he has just painted a girl in a field." "Did you ever see anything that was so lovely you wanted to paint it?" "Yes, I saw a peacock." "I saw the brick factory at night." "Did you ever hear anything lovely?" "Yes, I heard a band play." "I heard a canary sing." "Jules Breton who painted this picture heard a lark sing. Did he think it was beautiful?" "Yes." "How do you know?" "He painted a picture about it." "If he painted a picture about a lark singing, why did he paint a girl?" "The girl is hearing the lark and she likes to hear it." "How do you know?" "She looks happy and we can tell from the way she looks that it is a beautiful song."

"Jules Breton was a French painter. He thought it would be fun to be outdoors as the peasants are outdoors. One day as he was walking and heard the lark he wanted to paint a picture about it. He could not paint the song so he revealed the beauty of the song in the expression of the girl who is hearing the song."

(4) Technique and composition or how the artist has told



Courtesy of Chicago Art Institute

PLATE 55. "Song of the Lark." Breton

what he has to tell. This technique should be within the child's experience. If the children understand the placing of objects to show distance, this should be observed in the picture. If they have been taught to avoid placing a dividing line in the centre then the location of the sky line should be observed. A work of art should never be shown the first time as an example of a principle, for it will suggest not the feeling the artist expressed but the principle. Thus the *Last Supper* may suggest "formal balance"—rather than its significance as a painting if introduced first as an example of formal balance. However, the children should observe the application of any principle with which they are familiar. Example,—"What do you suppose Jules Breton did after he heard the lark and wanted to paint?" "He planned his picture." "He did not put the sky line in the middle and it looks nice." "He painted a nice sky." "He made the girl seem close to us by making her large and you can tell that the haystacks are far away because they are small."

"Do you think Jules Breton liked to paint?" "Yes, because it looks happy."

In summarizing the lesson one should emphasize (1) That artists see beauty and paint beautiful things. (2) We can enjoy the things artists paint and they help us to see beauty. (3) We can see things that we will enjoy painting.

General Remarks About Art Study.—Since association is a large factor in our feeling about something, the picture to be always a source of pleasure should be seen first in a pleasurable environment. Pictures and buildings as well as sculpture and minor arts should be close to the children's experiences. If the children are studying "Dutch Life" it is quite natural to study some Dutch landscapes. However, it is quite ridiculous to carry the element of correlation too far and a picture, building or statue may be the subject of a very enjoyable lesson if it is within the range of the children's experiences, even though it does not repeat the subject matter of the English or History lesson of the same day.

Do not force the discussion too far. There is much to enjoy about a work of art that is not within the realm of language. It is a mistake to think that every phase expressed must be transposed into words by the children. We have no reason to think that the person who stands long and silently before a picture is enjoying it less than the person who stands continuously chattering about it.

Visiting the Exhibit.—A visit to an art museum, public building, park or group of sculpture is very worthwhile as an advancement in art enjoyment if it is well planned. The visit should have previous preparation and be followed by a discussion.

I. The preparation:
  (*a*) Stimulate interest about the exhibit.
  (*b*) See that the children have a background for understanding and enjoying the exhibit.
  (*c*) Have definite things to look for—(1) a list of questions to answer or (2) make a list of certain things to sketch or (3) observe the applications of principles.
  (*d*) Discussion of conduct that is appropriate to visiting an exhibition.

II. At the exhibit:
  (*a*) Try to centre the children's attention on the things which they are prepared to understand rather than to dissipate their attention over a great variety of things.
  (*b*) Encourage them to make sketches of and notes about things that especially appeal to them.

III. Discussion following visit:
  (*a*) Let individual children tell about what they saw and show sketches made.
  (*b*) Summarize with class those things which they have learned that seem so important that every child should be held responsible for remembering them.

Selection as an Art Activity.—The average person has much to do by way of selecting articles. In fact in this day of specialized manufacturing we are coming more and more to buy ready made, rather than to make, the articles we need. Correspondingly we hear much about the consumer and the producer. The producer is supposed to be exercising his creative instincts or his power of expression while the consumer passively uses the producer's products. However, the consumer as well as the producer is expressing himself. The landscape painter selects certain paints from his palette and arranges them on his canvas. He is expressing himself. The man who goes into a clothing store selects from many models a suit, shoes, shirt, hat and necktie. He is also expressing himself. Discrimination in selection is an art and the selection and arrangement of ready made articles is a live and creative form of art that every normal human being uses daily. Although we are not conscious of the fact we have come to consider this selection an expression of the individual who selects. While we are constantly commenting on the fact that we buy clothes, rugs or dishes that are manufactured by some other person, yet, when we see a person in poorly selected clothes we do not say "why did the designer make such clothes?" but "why did this person select such clothes?" Since there is great satisfaction to be derived if carried on with discrimination this art activity of selection should be considered in the art curriculum.

The Technique of Selection.—(1) The first step in satisfactory selection is to get the need clearly in mind. In considering the need include: (*a*) the purpose the article is to fulfil, (*b*) the environment it is to have. (2) Having the need clearly in mind select the articles that will satisfy the need. (For example, one wishing to buy a teapot may find several that are satisfactory as teapots. (3) Select from this group those that will fit into the intended environment: in (*a*) material, (*b*) color, (*c*) design. (4) From this group select those that are best from the standpoint of rhythm, balance, color and craftsmanship.

Standards for Judging an Article.—The selection may be judged according to standards based on principles of selection. (1) Does the article satisfy its intended purpose adequately? Is the material genuine? Is the construction genuine? (2) Does it fit its intended environment in: (*a*) material, (*b*) color, (*c*) design? (3) Is it well made? (4) Is it beautiful (balance, rhythm, decoration)?

Children's Use of Principles of Selection.—For economic reasons adults do more of the selecting as related to buying than children. However, children have many opportunities to make selections and to apply the principles of selection. The teacher should take advantage of these opportunities in judging articles from the standpoint of utility and beauty. They may select material for the articles they make or select from a group of pictures one to put on the wall, or a vase for certain flowers to be placed in a certain spot. They may select and arrange the articles they have made, to form a pleasing exhibit.

In this connection it should be noted that teachers should encourage this selection in connection with school activities and very wise discrimination must be used if any comment is made about clothes or home activities. Children are too likely to be humiliated about things over which they have no control. A child may select a vase from a group in the classroom but he may have no part in selecting the clothes he wears. His choice of a vase may be discussed by the class but no reference should be made to his clothes or about his house because in so doing an embarrassing contrast among the children may be emphasized. It is not because it is wrong to improve arrangements that are poor æsthetically but that it is a mistake to call attention to and make the children unhappy about what they themselves cannot improve.

Developing a Feeling of Social Responsibility for Beauty. —Since there is much worthwhile satisfaction where there is beauty, and much annoyance with ugliness, why not have more beauty and less ugliness? After we have developed in children the habit of considering the "looks" in their own things we should also try to develop a feeling of responsibility for beauty in things not their own, but with which they come in contact. In other words the children should become active promoters of beauty not only for their own enjoyment, but also for the enjoyment of others.

Children may contribute directly to establishing and maintaining beauty in the school room and on the school grounds, on the streets, in public buildings and in public parks. They may also add to the æsthetic enjoyment of others as "reporters" about something beautiful that they have seen, telling what is especially worth seeing about it and whether others may see it.

Summarizing the scope of art appreciation then: (1) It should provide each child with the ability to approach any work of art independently with increasing understanding and æsthetic enjoyment. (2) It should include not only pictures but also sculpture, architecture and the minor arts including articles of daily use. (3) It should develop in each child the habit of considering the æsthetic quality in every visual arrangement. (4) It should develop in each child a feeling of civic responsibility for helping to establish and maintain beauty.

CHAPTER X

THE ART CURRICULUM FOR THE ELEMENTARY GRADES

In the past the art curriculum has been either a list of things for the children to make, a number of skills for them to acquire or a combination of the two apportioned to each future art period as neatly as an engagement calendar. The predesignated curriculum can take no account of children's interests and needs. For example a curriculum states, "Third week in March study perspective of circle and apply to drawings of castles." If the children are using material for their own expression it would be a coincidence indeed if they should happen to draw castles or have a need for circular perspective that particular week.

To be genuine the art activities must be the natural outcome of the children's interests. However, if these art activities continue to give the highest satisfaction to the child, there must be conscious growth in worthwhile knowledges, habits, skills, and appreciations. The problem then is "How can free expression lead to increasing growth in art?" The solution lies in the ability of the teacher to see in the activities the need for such worthwhile techniques as are within the child's abilities and to help the child to master these techniques for the purpose of liberating his own expression.

As an example of some of the art activities and resulting growth, illustrative records from elementary grades are given:

THIRD GRADE

ART ACTIVITIES ARISING FROM SCHOOL INTERESTS	KNOWLEDGES GAINED IN ART SUBJECT MATTER	HABITS AND SKILLS ACQUIRED	GROWTH IN APPRECIATION
Children were studying Dutch life in geography and wished to show typical Dutch scenes. They made crayon drawings.	(1) Objects appear smaller as they are farther away. (2) Dark object on light background or light objects on dark background are more easily seen than objects on the same background. (3) Ruisdael, a Dutch artist, painted landscapes about Holland.	(1) Applying principle of size to show distance. (2) Using crayon with horizontal and vertical strokes. (3) Using strong contrast in value by heavy and light strokes.	Enjoying drawing. Appreciation of "Landscape with Mill."
Need for large pictures to illustrate special reports. Large paintings made with fresco paint.	Another application of knowledges learned in crayon drawing.	Meeting special requirements to make drawing fit in series.	Using drawing as an additional means of expression.

Need for book about local history. Children made booklets.	(1) Pamphlet booklet. (2) Planning of pages: (*a*) always have margins. (*b*) bottom margin should always be widest. (3) Cover of book must: (*a*) tell what book is about. (*b*) protect.	Habit of always using margin in page arrangement with bottom margin widest.	Desire to consider appearance in page arrangement.
	(4) Colors that "match" are pleasing.	Habit of selecting colors with consideration for appearance.	Realization that some colors are nicer together than others.
Making of simple maps to show location of places discussed.	Type of drawing not pictorial but valuable as a means of giving accurate information.	Using and interpreting informational drawing.	Appreciation of informational type of drawing.
Children needed to explain scenes in dramatization. Children made large signs.	Knowledge: (1) of simple block alphabet suitable for posters and signs. (2) that the letters may be easily made the same size if cut from same sized rectangles.	Cutting simple letters freehand from rectangles. Leaving space between words. Having dark letters on light paper or light letters on dark paper.	Appreciation that letters must be made correctly and spaced well if the signs are to be read.

FOURTH GRADE

ART ACTIVITIES ARISING FROM SCHOOL INTERESTS	KNOWLEDGES GAINED IN ART SUBJECT MATTER	HABITS AND SKILLS ACQUIRED	GROWTH IN APPRECIATION
Need for illustration of types of landscapes in world. Children drew pictures in crayon of countries studied in geography.	(1) Characteristic sky lines: (*a*) flat country has straight line for sky line. (*b*) hills have flat curves for sky line. (*c*) mountainous country has uneven, jagged sky line.	(1) Showing type landscape by characteristic sky lines. (2) Avoiding dividing space in exact middle. In landscapes, making sky line above or below centre.	Enjoying landscape painting showing different types of landscape.
	(2) Uneven space division is more interesting than even space division.		
	(3) Things far away are grayed in color.	Showing distance by use of: (*a*) grayed color. (*b*) lighter color near horizon.	
	(4) Sky is dark above and lighter near horizon.		

Making booklets showing pictures and telling about trip around the world. Pictures cut out and mounted.	Principle of fitness to purpose. How to bind single sheets in pamphlet style book. Principle of formal balance. Principle of rhythm. Material similar in color should be placed on opposite pages in order to accomplish balance and equal attractions.	Selecting proper material and design to fit need. Using balance in planning pages. Using simple unit repeated in border for book cover. Choosing pictures that "match" in color and idea, to put on opposite pages.	Pleasure gained in careful arrangement of material on page. Enjoyment in seeing similar material placed together.
Drawing of ships to illustrate stories of early explorers.	(1) Objects nearby are low on the paper as well as large. Objects are placed higher on the paper to make them seem farther away. (2) Objects must be drawn in good proportion. Knowledge of paintings of ships of early days.	Placing objects to show distance. Blocking in main lines first for proportion and adding details last. Improvement in use of crayon in stroke, contrast of light and dark, and in color.	Appreciation of pictures painted about early explorations.
Making of maps to show early routes of explorers.	Drawing to scale.	Giving information by means of drawings and learning to read drawings that are not pictorial.	Appreciation of accuracy with which information may be given in this type of drawing.

FIFTH GRADE

ART ACTIVITIES ARISING FROM SCHOOL INTERESTS	KNOWLEDGES GAINED IN ART SUBJECT MATTER	HABITS AND SKILLS ACQUIRED	GROWTH IN APPRECIATION
Making of posters advertising school play.	How to plan spacing by means of simple rectangles and then add details. How to use "unit" to cut letters. Subordination and emphasis as gained by size, placing, and color. Enclosing margin should be greater than intermargins. Rhythm as applied to lines and masses in order "to fit" space.	Spacing for adequacy and beauty. Cutting and spacing letters. Discriminating between important and unimportant; emphasizing the important and subordinating the unimportant.	Appreciation of good spacing wherever it occurs. Appreciation of careful workmanship. Appreciation of unity as essential to adequacy and beauty. Enjoyment of applications of rhythm of line and mass.

Making a sand-table of a southern plantation.	How to show correct dimensions on a plan.	Making a plan and working from a plan.	Appreciation of "Head-work should always precede handwork."
Drawings in crayon showing colonial utensils.	Principles of circular perspective. Knowledge of craftsmen of colonial days and why their products are enjoyed to-day.	Locating main essentials and getting good proportion before adding details. Drawing ellipses. Showing light and dark sides of objects.	Appreciation of adequacy and beauty in colonial implements. Satisfaction in drawing.
Drawings to illustrate study of the United States.	In addition to knowledges of placing already learned—placing objects that are above eye-level lower on paper to show distance.	Additional skill in showing distance. Using drawing readily to clarify statements.	Appreciation of possibilities of drawing as means of expression. Enjoyment of paintings about the United States.

SIXTH GRADE

ART ACTIVITIES ARISING FROM SCHOOL INTERESTS	KNOWLEDGES GAINED IN ART SUBJECT MATTER	HABITS AND SKILLS ACQUIRED	GROWTH IN APPRECIATION
Drawings of Egyptian and Assyrian temples.	How to apply principles of distance previously learned to drawing of rectangular objects. How to apply principles of circular perspective in drawing tops of columns.	Getting accurate proportion in drawing buildings. Subordination of details.	Appreciation of architecture of early civilizations.
Making floor plans of temples.	Floor plan as a means of showing structure.	Accuracy in drawing to scale, and reading floor plans.	Respect for floor plan as a type of drawing.
Making of a book about the Greeks.	Greek architecture, sculpture, and vases. Names of typical examples. Names of details in the Greek building. Names of typical Greek motifs. Spacing of inside page margins.	Improvement in spacing . Good letter forms and words well spaced. Recognition of Greek influence as seen to-day. Observing and recording use of Greek motifs.	Appreciation of Greek art as beautiful application of principles of design; also as influencing Art down to present day.

	Single stroke alphabet for labelling pictures.		
Making of a book about castle life, lettered with wide pen and with illuminated pages.	Wide pen lettering. Use of color with respect to hue, value, and intensity. Simple binding of book such as monks made.	Lettering. Use of color. Planning space and letters before making the cover.	Appreciation of craftsmanship of Middle Ages. Appreciation of the necessity of considering hue, value, and intensity in any color problem. Appreciation of the making of books.

Unit of Work.—These activities are not given as any part of a dogmatic art curriculum, but to show how the natural activities of children may result in desirable growth in art.

In order to see that growth results from the activity a "unit of work" in art should be planned. The unit should always include (1) planning the work, (2) knowledges and skills necessary, and (3) summary of what has been learned.

Some Examples of Units of Work.—For example the children in a third grade wished to make booklets. This work of course required the time of several art lessons:

(1) Children and teacher planned the book, deciding on form of book.

(2) "Always have margins," and the bottom margin is widest. Discuss necessity for margins. Observe margins in books and on posters. Plan margin for booklet.

(3) Arrange material on pages within margins.

(4) Discuss purpose of book cover: protection and identification. Plan cover for book. Criticise.

(5) Make cover. Put book together.

(6) Summarize what has been learned about margins and fitness to purpose. Discuss the books on the basis of these principles.

The children in a fourth grade were drawing types of landscapes:

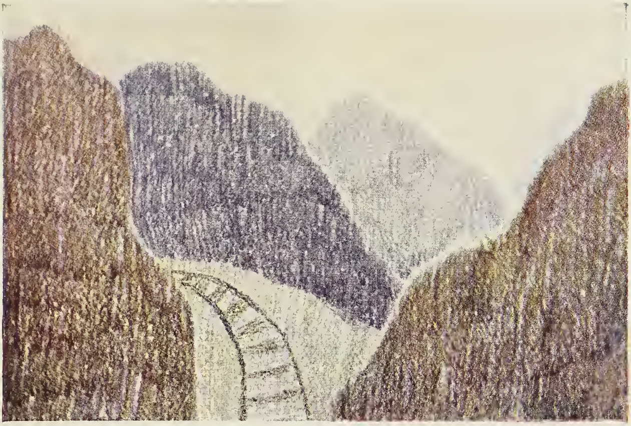
(1) Discussion of children's drawings to find out what new technique was needed. The children decided that what they needed most was to know how to make a plain look flat and a mountain high. Review of what had been learned about showing distance by size and placing.

(2) Observe sky lines in different landscapes. Straight line shows plain. Placing of sky lines: plain—low on paper. Make drawing of plain. Discuss.

(3) Observe that sky line of hills is shown by curved lines placed higher on the paper than sky line of plains. Make drawing of hills. Discuss.

(4) Observe that sky line of mountains is a jagged line and is placed very high on the paper. Make drawings of mountains and discuss.

In a sixth grade the children were studying Egypt and Egyptian decoration. The children could recognize some of



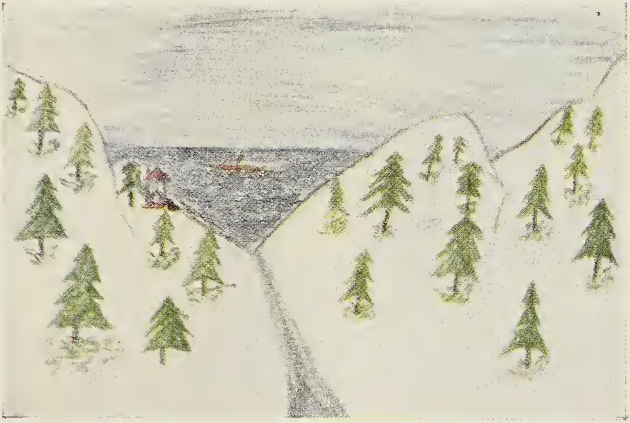


PLATE 56. Pictures showing children's application of principles in drawing hills and mountains.

the motifs as plant motifs, etc. The principle of adaptation was reviewed:

(1) Idea or plant form must be changed to meet new needs of decoration. Children made a drawing of lotus plant and then collected Egyptian designs adapted from lotus.

(2) Similar drawings and designs made from papyrus plant, scarab, birds and boats.

(3) Discussion of present-day design on dishes, rugs, textiles, etc. Look for motif and adaptation of motif to meet new need. Collect examples.

(4) Summarize work by making standards for judgment of design as contrasted with a picture for decoration of an article.

How Many Lessons Should Be Included in a Unit of Work?—The number of lessons in a unit of work will depend on the abilities and art expression of the children. Children in the upper grades can carry one type of work for a longer period of time than the children in the lower grades. However, in every case the children should feel that they have advanced in knowledge and skill as a result of the unit of work. Children should make many applications of the principles learned, and both teacher and children should feel that the new knowledges learned and skills acquired are only to help them to find more satisfaction in art activities.

The Art Lesson.—In respect to the art lesson, of course there is no set formula. As has been stated in Chapter II established principles of education should be applied in the art lesson as in lessons in arithmetic or penmanship. There are some lessons occurring in every unit of work that include the gaining of knowledges, such as how to show a circle or how to make objects look far away; some lessons are planned to help the child to improve certain skills, such as drawing ellipses, improving crayon stroke, ability to see proportion correctly and to record the proportion on paper.

If the lesson is to be profitable to the children the teacher must plan previously for it in order to see that necessary experiences may be included. Of course a long detailed written plan is neither advisable nor possible. However, the teacher should have clearly in mind (with such notes as are necessary to her) just what principles, knowledges, skills, or habits she wishes to stress during the lesson and have at hand such illustrative material as will be needed. If there are accessible points for advantageous observation the children should be taken there to see applications of the principles discussed.

Children do and should continue to do much independent work in art outside of the regular art period. Then, the art period should be taken to discuss the work and help the children to improve. The children who have mastered the new technique should not be required to sit idle through the second discussion but should be allowed to apply the principles, while the teacher works with the group or groups that need special help.

Distribution of Units.—The units of work should be so distributed throughout the year as to include drawing, design, lettering, color, and appreciation. Thus in the fourth grade if children have had a unit in drawing in which they have learned how to show the circle in perspective, the next unit should be planned to include design, color or lettering. Otherwise the child during the year will not have had enough art experiences to have gained well balanced growth in art.

Many teachers feel discouraged when they find that they have received a new class who do not meet the standards usually expected of children in their grades. No teacher can control the previous training of the children in her class. The only thing she can do is to find out where they are and

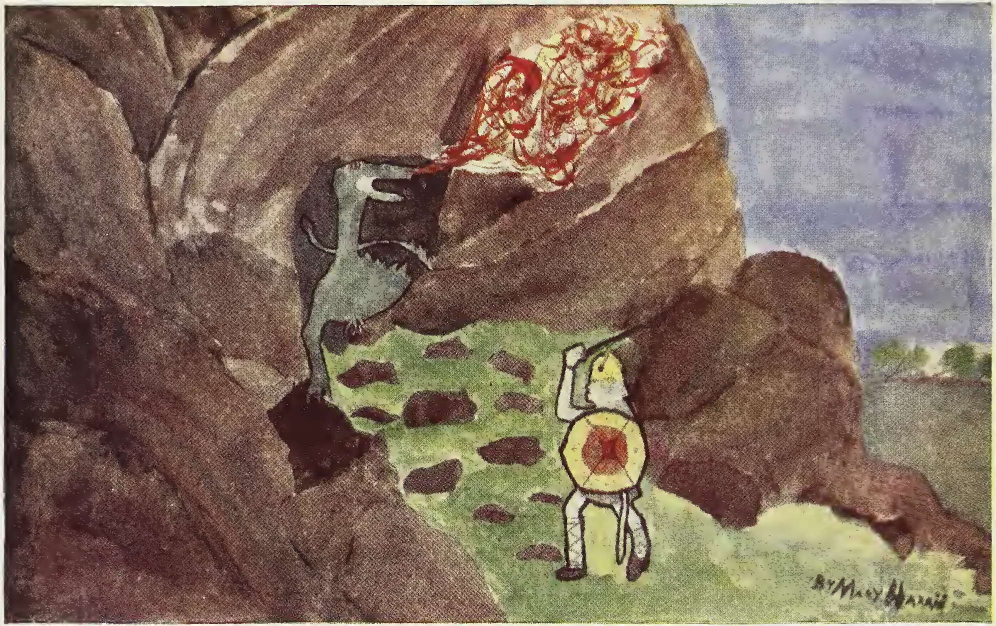


Plate 57. Saint George and the Dragon.
Painted by fourth-grade child.

give them such experiences as will help them to grow in art ability and enjoyment.

Accomplishment in Art in the Elementary School.—We may reasonably hope at the end of the Elementary school to have developed in every child:

(1) The ability to use drawing, both pictorial and mechanical, readily as a means of expression or communication.

(2) The habit of considering the æsthetic quality in every activity as a result of a conscious desire for beauty.

(3) A working knowledge of fundamental principles of art structure on the basis of which he can satisfy his desire for beauty in every activity.

(4) Recognition of the satisfaction that follows the adequate reshaping of material to satisfy a need.

(5) A growing interest in the art expressions of others both contemporary and historical.

Standards for Each Grade.—From the standpoint of administration it would be desirable to formulate art standards to be attained in each grade. However, from the standpoint of the art development of the child this is, at the present time, impossible. We have many records of what the adult desires the children in each grade to accomplish in art. But, we have few records of what the child can accomplish while following his natural art activities. Before we can come to any conclusions about the art achievements of an average child in a fourth grade we must have records of the activities and resulting art growth from many fourth grades. Thus we may arrive at approximate standards through a comparison of records.

Creative art is an outlet for the individual. The greatest satisfaction occurs to the individual as he sees his idea take form in material through his own efforts. It is doubtful whether the joy that an observer gains from the product of another ever equals the joy that the creator feels in the making of the product. Quality of workmanship is after all a comparative affair. The work of a teacher may be excellent as compared with the work of a child but very mediocre as compared with that of a professional. The point, then, is that the product satisfies the producer. That the producer desires help in technique is obvious from the fact that each art activity gives a higher standard of workmanship and the additional technique is needed in an attempt to meet the new standard.

Thus it is,—technique for the child and not the child for technique. It is not so important that every child in an elementary school has attained certain knowledges and skills at a given time as it is that every child has ideas or "sensitiveness to environment" and finds satisfaction in expressing those ideas or in creative activity.

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